COVID -19 Pandemic
A Game Changer for Industry and Academia

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CONTENT

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BANKING INDUSTRY INNOVATIVE SERVICES AND PANDEMIC

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ABSTRACT

Pandemic has stormed the life and life style of people across the globe. The situation made the economy closer to stand still and continuous lock down paralyzed the works and working nature of most of the communities. However, COVID opened up to most organizations to support and delivery through technology. Pandemic norms enforced the people, to stop giving way to spread the virus. Wide cross section of people, look for survival by engaging business as they don't have regular income. Under this pretext, the only way of leveraging business, found to be Technology orientation. Be individual or organization, the value of technology is trusted during pandemic with high spirits and embraced in a bigger way. Financial institutions aggressively deploy technology to increase circulation of money in the system. This article covers the various services of the banking industry, with the back bone of technology, to survive during the stressed time span like COVID, which are outcome of Fintech solutions.

KEYWORDS

Internet banking, Contactless Payment, Mobile banking, Payment Apps, UPI, Plastic cards.

I. INTRODUCTION

Pandemic stipulated, safeguard to mankind, many procedures including, but not limited to, No or less movement from the residence, maintaining social distancing, and mask wearing and keeping clean hands in order to stop the spread of the virus. Though norms of pandemic restrict people, it is known fact that money is essential part of living as well as to conduct business. Financial institutions are playing major role in money circulation and so redressed their services more on technology. Banks evolved from many phases of automation, from stand alone computers to centralized Core banking solutions and integration of all supportive systems like delivery channels. Delivery of bank's services to a customer at his office or home is termed as Electronic banking [2]. Adopting to emerging & disruptive technologies was not a bigger bottleneck. Majority of banking services, which are essential during COVID, have been routed through various approaches and means which are all backed by strong technology. By the way, COVID turns out be instrumental to make technology as a strong foundation among organizations and individuals. Banking Industry, post embracing technology as the business driver, moved from banking domain (branches) services to Customer Domain services.

II. OBJECTIVES OF THE PAPER

Considering the pandemic situation, globally affected, various technological services are used by the customers equalize to the normal activity. These turned out to the 'new normal' now, as COVID changes the usage approaches, thus the objective of this paper is to highlight

- Techno based Banking Services
- Coverage of services during COVID and relaxations
.

III. BANKING SERVICES AT PANDEMIC

Financial transactions have been conducted through various modes like cash, cheque, net banking, UPI payments, debit / credit cards etc. The technology orientation of banking services includes, payment gateway for e-commerce, clearing services of ECS, ACH, cheque truncation, money transfer through SWIFT(global), RTGS / NEFT(domestic) and instant transactions with ATM, POS. UPI app services. Cash transaction has been restricted due to the physical handling (virus spread) & fear factor during COVID. Banking payment systems used to settle fund transfers, has seen high volume of growth, evolved with various platforms, with growth of technology time to time [10]. Banks improvised the infrastructure to support the growing loads. ICT facilitated financial institutions to have Core banking systems (CBS) and suitable integration of channels of banking services (ATM, POS etc). Thus, the scope of areas, in terms of geography and services increased multi-fold. Traditional working models, like dependency of customers to visit bank branches and pricing models, like fee collection for over and above ATM transactions, have changed to facilitate hassle free living. Speedier, quicker and dependable services can be offered through E-banking, which increases the customer satisfaction[3]. Banking services leverages customer beneficial services like waving of cross ATM usage, permitted period of non-insistence of EMI payment, increased ATM withdrawal limit etc.

Fig1- Pandemic supportive e-banking services

Technological services reduces transaction costs, administrative work, errors due to human intervention and decreases fixed costs[7]. Delivery of services underwent paradigm shift in accounts management, fund transfers, movements and settlements. They include but not limited to

- *ATM liberalization* – To increase the usage of ATM and money withdrawals, amount limit on per transaction, limit on number of withdrawal, per day / card limit have been suitably increased. Cross ATM usage charges are waived. Cash / Cheque deposit acceptance through ATM / CDM (Cash deposit Machines) positioned in place for services. White label ATMs are encouraged and banks offer 'ATM on Wheels' service to bring ATM to the customer locations. The increase of number of ATM in many locations, that will reduce wait time and improve the quality of customer service[4].

- *PBS* – Passbook Printing services are offered through special machines, so that customers can get the pass book updated without visiting bank counters and at any time.

- *On-line bankingServices* are made available without any issues, round the clock. Through this banks enabled the customers to conduct transaction at convenient place and time. These services include, fund transfers RTGS, NEFT or IMPS (Integrated Mobile Payment Systems), Account Opening (saving / deposits), Statement of account printing, any essential service like stop payment or hot listing of cards, credit card payments, loan repayments, even loan request / appraisal and sanctions..

- *POS services* – More merchants, with the help of their bankers, bring in POS for the fund collection through card payments. POS connected to static telephone lines are moved to movable POS, Contactless card service (customers need not enter PIN up to certain amount limit, auto-authentication).

- *UPI Payment*, this innovative solution, makes the transfers of amount from one to another by scanning the receivers QR code / phone number / account number details. This enabled social distancing as well as hassles less payments. It allowed even small amount for transfer. There are good number of players, in technological integration with banks, through payment apps like PhonePe, Google Pay, Paytm etc,

- *Wallets Services* – These are payment apps offered by many players, wherein they technologically integrate with banks, to pull cash to wallet and to push back to bank account. Funding of wallet could not done using credit or debit cards or direct banking account registered. These wallet users can easily transfer the amount among them. Payment & Collection done by wallets will have internal ledger maintained to reflect balances.

- *Wearable Payments* – Special apps are kept in 'Wearable' and the customer can make payment from wearable. These wearable are extension of payment apps, integrated to bank account of the customer.

- *E-commerce Payment System* – Due to lock down, commercial activities are routed through e-commerce. This includes B2B, B2C & C2C. The payment on the e-commerce have been enabled with payment gateway services, which includes, Payments via, Credit Cards, Debit Cards, Net banking and UPI. Government enabled the collection of variety of taxes, utility bills / services through various payment modes on various forms of gadget. Special cards are enabled in the market vizsodexo food cards, petro cards targeting specific purpose of commercial activities.

To respond to COVID, capability of conducting / delivering banking services are enabled through many technological devices like computer, laptops, palmtops, wearable, mobiles etc.

IV.   BENEFITS OF TECHNO SERVICES

COVID-19 changed most of industrial approaches, products and services and it is instrumental for many more innovations. The readiness of banks with right infrastructure like servers, capacity to serve more people in parallel, load tolerance and storage are the critical success factors for COVID support. Thus, techno services brought spectrum of advantages. They include, but limited to,

- Digital Culture in the society. Techno services en-marked great confidence on the e-services and moved towards e-environments[1].

- High Business Agility using Digital Transformation strategies

- Integrating all banking verticals such as retail, corporate, merchandise, investment, credit cards etc to offer Universal Banking Advantages

- Competitive edge to competitors. ICT lifts business process, executive decimate making and work group effort & increased competitions and working economies [6].

- Distributed design and global delivery with cost effective solutions. Penetration, productivity and efficiency of banking activities increased due to technological advancement and techno delivery channels to provide customer in lesser costs[5].

- Sector / Segment oriented Product / Service Designing. Due to huge data & data analytics, banks can achieve Data driven business decisions [8].

- No boundary on time and geography. Online banking can be done without physically visiting the bank branch can do some banking activities like Transfer cash, Payment of Bills, Phone recharge, and many more through the Internet banking in their phone, computer[9]

- Enabling conduct of Transaction at privacy, pandemic situation could be handled and the same paves way to digital use and dependency.

- Verifiable & trace-able and also legal evidence, as all transactions stored and retained for access at any point of time.

- Multiple factors for Customer authentication and authorization.

- Time to time upgrade of crypto-graphical methods, to make all transactions / IT Assets secured in cyberspace. Decisions through data analytics on risk data for improvement on business and opportunities, banks can equally manage Risks and Regulatory [8].

- Banking services are supported by wide varieties of devices like hand phones, computers, kiosks etc.

V.   CONCLUSION

This unexpected pandemic situation, played vital role in brining-in many changes in many areas, be it, individual or organization. Individuals change their life style and slowly adopted hygienic and digital culture. Organizations roll out changes in business rules, workflows, and delivery patterns to accommodate COVID norms. Banking industry changes from the traditional way to technological way and effectively performed the services. Banking Industry embrace agile practices through technology to regularize economy, currency cycle, liberalize commercial activity. Fintech is growing in multiple levels to design and position new product / service according to environment and culture.

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A STUDY ON THE PERCEPTION OF CUSTOMERS TOWARDS ORDERING FOOD ONLINE DURING COVID-19PANDEMIC WITH REFERENCE TO MANGALORE

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Abstract:

The Coronavirus Pandemic has disrupted major economic activities. Many of the businesses was being brought to a standstill again by the second wave of coronavirus in India. Perhaps the restaurant and food service industry are one among the most affected. They were closed due to the Covid-19 pandemic lock-down. Consumers too avoid the visiton the grounds of health and safety measures.Thebiggest change prompted by the pandemic has been the shift from on-premises dining to off-premises dining. Most restaurants have realized the need for investing in technology as people prefer to ordering food online or pick it up at the restaurant during pandemic. An attempt has been made in this study to understand the perception of customers towards online food ordering. It examines the factors influencing the decision of customers to prefer on-premises dining or online food ordering and also focus the challenges faced during ordering food online.

Keywords: Coronavirus Pandemic, Restaurant, Ordering Food Online, Perception, Challenges.

Introduction:

The Covid-19 Pandemic brought about a halt to most of the economic activities and millions of people lost their jobs and income. Food and restaurant service is one among the most hit industry, as dine-in service was stopped during lock-down. People too were hesitant to visit restaurants on the grounds of health and safety measures. This has enabled the restaurants to shift from on-premises dining to off-premises dining and the use of technology for ordering food online or pick it up at the restaurants.

The evolving advancement in technology and access to internet facilities has brought about a massive change in e-commerce activities and in the lifestyle of people as well. There are several factors like changing lifestyle, hectic schedule, increasing proportion of working women, growing disposable income, rising digitalization among millennial, change in eating habits that has led to the popularity of the online food delivery system which had gained its popularity probably from 2015. The online food delivery in Indian food market was about 15% as of 2019 and is expected to reach nearly 30% at compound annual growth rate (CAGR) as per GLG, World's Insight Network.

Furthermore, with the lockdowndue to covid-19 pandemic, there has been a positive impact on the online food delivery industry. It has also resulted in contactless delivery services and cashless payment system.

Review of Literature:

TelukdarieArnesh et al. (2021) reviews the global literature and South Africa FoodBev companies have responded in alignment to the trends in most areas. The analysis indicates that a significant number of companies predict some future impact of Covid-19 and companies need to structure finances to survive, access government grants and other government incentives.

NoorazlinRamli et al. (2021) reveals that as per the study

majority of the respondents have a positive opinion towards the use of electronic food ordering services due to the factors like perceived convenience, customer control, attractive marketing and eagerness to use technology during covid-19. It is user-friendly and can get sufficient information to order. During the challenging time, online ordering helps the local food businesses by providing them a source of revenue, thus avoiding permanent closures.

Shanmugam Siva et al. (2021) aims to analyze the impact of the Covid-19 pandemic on customers who order food online. 70.9% drop has been found in the frequency of food ordered online during this study period. It revealed that compared to women, men place more food orders per month and dinner is the most ordered meal among all age categories. Among the factors, taste is the most influencing factor followed by hygiene, food quantity, discount and offers thatthe customers consider while selecting a restaurant online.

MehroliaSangeeta et al.(2021) in the study implies that the customers who purchased food through online food delivery services found less perceived threat with high frequency of purchase, high perceived benefits and high product involvement, which are considered as the contributing factors of the inter-group differences.

Pal Debajyoti et al. (2021) in the study shows that the satisfaction of the customers is the greatest interpreter of loyalty and food quality. Information design is one among the mobile application attributes which has the highest impact on both satisfaction and loyalty followed by navigational and visual design.

Objectives:

- To understand the factors influencing the decision of customers to prefer on-premises dining or online food ordering.
- To examine the challenges faced by the customers while ordering food online.
- To know the level of satisfaction of customers towards online food ordering service.

Research Methodology:

Primary and Secondary data are used to collect the information for the study.

Primary data
The data is collected using a structured questionnaire prepared in google form. The data has been collected from 78 respondents who are working in Mangaluru city. Convenience sampling method has been used tocollect the data from the respondents. The data collected from the respondents are coded, tabulated and described using tables, charts and percentagesto arrive at findings and conclusion.
Chi-square test is being used for analyzing the data which enables to find out the discrepancy between the observed frequencies and expected frequencies.
Chi-square = $(O-E)^2/E$
Where O = Observed Frequency, E = Expected Frequency
Secondary data
The data is collected from the articles published in various e-journals, available literature and websites.

Limitations of the study:
- The study is confined to the respondents working in Mangaluru city.
- Collection of detailed information is limited due to the time constraint.
- There might be several factors influencing the decision of customers while they prefer different online restaurants, but this study is limited to only those factors influencing the customers to prefer on-premises dining or online food ordering in general.
- The sample size is not large enough to generalize the result.

Online Food Delivery System:
Online food delivery system enables the customers to order food online through the software that allows restaurants to accept and receive the same at their doorstep. While browsing the internet sitting at their home or workplace, customers have wide variety of cuisines to choose, offered by different restaurants. Earlier food was ordered by making a call to the restaurants and had to drive to the place, sometimes wait for the food to be prepared and then collect it. Now the restaurants have switched to online ordering where they can create a website or an app or both that will enable the customers to order at ease. Customers can get familiar with add-on deals and offers that the restaurants provide. Customers can order anytime,

from anywhere using mobile devices even during the times like meetings, busy schedule, guests at home and so on. Restaurants follow an order management system that notifies the staff regarding the order through mail or SMS streamlining the entire ordering process from the placing of order to final delivery. This enables quick execution of order. At the same time if the restaurants have limited seating capacity, execution of online order can reach a large number of customers without any additional investment on infrastructure.

Data Analysis and Interpretation:

Table 1: Showing the gender of the respondents:

Gender	No. of Respondents	Percentage (%)
Male	21	27
Female	57	73
Total	78	100

Source: Primary Data
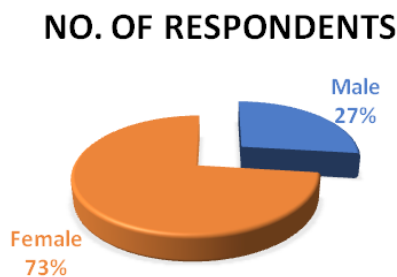
NO. OF RESPONDENTS

Chart 1: Showing the gender of the respondents
Interpretation: The above chart shows that out of the total respondents 73% are females and 27% are male respondents.

Table 2: Showing the age of the respondents:

Age of the respondents	Number of Respondents	Percentage (%)
Less than 30	27	35
30 – less than 40	36	46
40 – less than 50	09	11
50 and above	06	08
Total	78	100

Source: Primary Data

Chart 2: Showing the age of the respondents

Number of Respondents
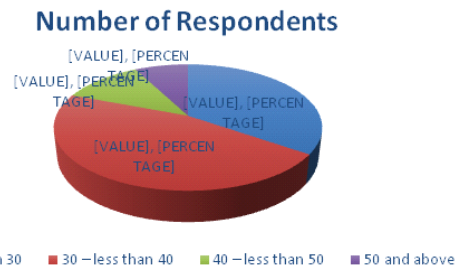
Interpretation: The above chart indicates that 46% of the respondents belong to the age group of 30 to less than 40 years, 35% respondents are below 30 years and 11% respondents are between 40 to 50 years. 8% of them are of the age 50 and above.

Table 3: Showing the salary per month of the respondents:

Salary per month	Number of Respondents	Percentage (%)
Less than 20,000	27	35
20,000 to less than 40,000	36	46
40,000 to less than 60,000	09	11
60,000 and above	06	08
Total	78	100

Source: Primary Data

Number of Respondents
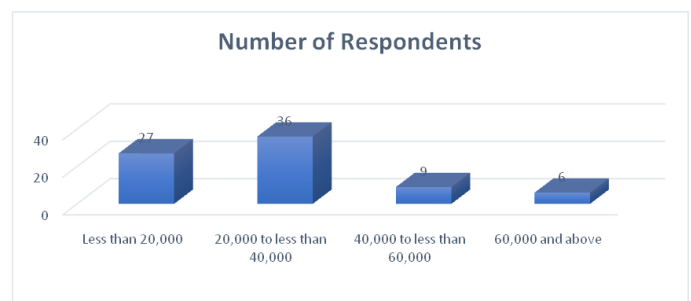
Chart 3: Showing the salary per month of the respondents
Interpretation: From the above chart, it is clear that 46% of the respondents earn between 20,000 to less than 40,000 income per month, 35% of them earn less than 20,000. While 11% respondents are between 40,000 to less than 60,000 income level and 8% earn 60,000 and above.

Table 4: Showing the preference of respondents for having food in restaurants or ordering online before pandemic:

Preferences	Number of Respondents	Percentage (%)
Restaurants	36	46
Ordering food online	24	31
In-car dining	-	0
All the above	18	23
Total	78	100

Source: Primary Data
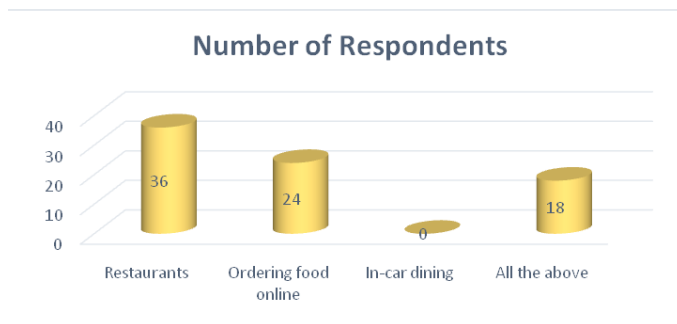
Chart 4: Showing the preference of respondents for having food in restaurants or ordering online before pandemic
Interpretation: The above chart reveals that majority (46%) of the respondents preferred restaurants for having food before pandemic, while 31% preferred ordering food online. 23% of the respondents preferred all, that is restaurants, ordering food online, in-car dining to have food before pandemic.

Table 5: Showing the frequency of ordering food online before pandemic:

Frequency of ordering	Number of Respondents	Percentage (%)
More than 5 times a week	-	0
3 to 5 times a week	06	8
Less than 3 times a week	18	23
Once a month	39	50
Never	15	19
Total	78	100

Source: Primary Data
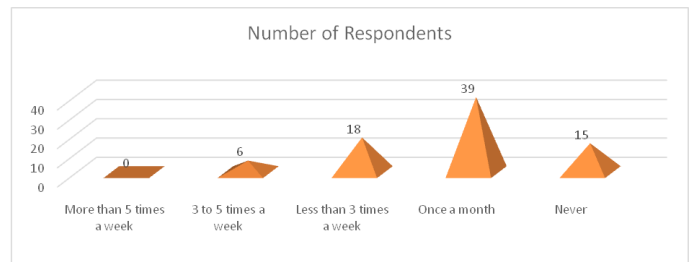
Chart 5: Showing the frequency of ordering food online before pandemic

Interpretation: The above chart indicates that 50% of the respondents preferred to order food online once a month before pandemic, 23% respondents ordered less than 3 times a week while 8% of the respondents ordered 3 to 5 times a week before pandemic.

Table 6: Showing the frequency of ordering food online during pandemic:

Frequency of ordering	Number of Respondents	Percentage (%)
More than 5 times a week	09	11
3 to 5 times a week	06	8
Less than 3 times a week	24	31
Once a month	39	50
Total	78	100

Source: Primary Data

Chart 6: Showing the frequency of ordering food online during pandemic
Interpretation: From the above chart, it is clear that 50% of the respondents do order food online once a month during pandemic, 31% order less than 3 times a week while 11% of the respondents order food online more than 5 times a week and 8% respondents order food 3 to 5 times a week through online app during pandemic.

Table 7: Showing the factors influencing the respondents to choose online food during pandemic:

Factors	Number of Respondents	Percentage (%)
Ease in ordering	33	22
Convenience	42	29
Saves time	42	29
Safety	21	14
Others	09	6

Source: Primary Data

Chart 7: Showing the factors influencing the respondents to choose online food during pandemic

Interpretation: As seen in the above chart, 29% of the respondents consider convenience and saving in time are the factors that influence them to choose online food during pandemic. 22% of them are of the perception that ease in ordering influences the respondents to order food online while 14% are of the opinion that safety influences them to order food online and 6% consider others factors.

Table 8: Showing factors enabling respondents to prefer food in restaurants rather ordering online

| Factors	Number of respondents	Percentage (%)
Convenience	03	4
Meet friends, relatives and discuss	27	34
Break from work/refresh	42	54
Habit/used to	03	4
Others	03	4
Total	78	100

Source: Primary Data
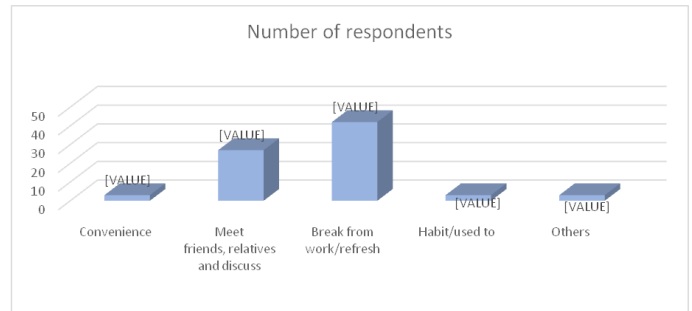
Chart 8: Showing factors enabling respondents to prefer food in restaurants rather ordering online

Interpretation: 54% of the respondents prefer food in restaurants to get a break from work or to refresh. 34% respondents would like to meet their friends, relatives and discuss by visiting restaurants rather than ordering online. 4% of the respondents are of the perception that factors like convenience, as a habit and others factors enable them to prefer food in restaurants.

Table 9: Showing the challenges faced by the respondents while ordering food online during pandemic

Challenges	Number of Respondents	Percentage (%)
Network issue	18	23
Site is slow	06	8
Service is poor	03	4
Delivery time is more	39	50
Lack of knowledge	0	0
Others	12	15
Total	78	100

Source: Primary Data
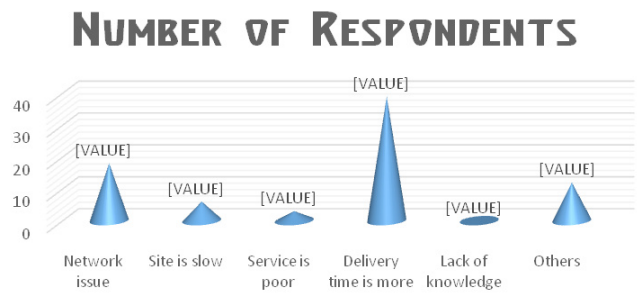
Chart 9: Showing the challenges faced by the respondents while ordering food online during pandemic
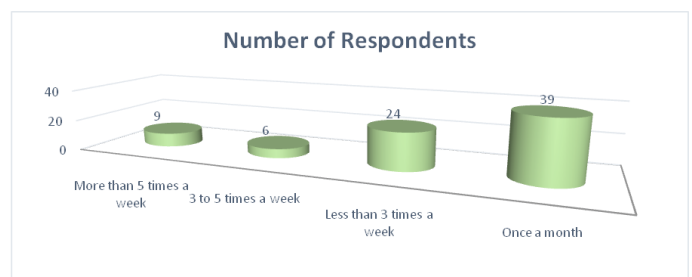
Interpretation: From the above chart, it is clear that 50% of the respondents consider that it takes more time to get the delivery of food ordered online. 23% of them say network issue is one of the challenges faced by them while 15% mention other challenges. 8% consider network issue and 4% consider service is poor as the challenges faced by them.

Applying Chi-square Test

H_0:There is no significant difference between the age and level of satisfaction towards ordering online food during pandemic

Table 10: Showing the level of satisfaction towards ordering online food during pandemic

Level of satisfaction	Less than 30	30 to less than 40	40 to less than 50	50 and above	Total	Percentage (%)
Extremely satisfied	6	3	-	-	9	11
Satisfied	18	21	3	3	45	58
Neutral	3	12	3	3	21	27
Dissatisfied	-	-	-	-	0	0
Extremely dissatisfied	-	-	3	-	3	4
Total	27	36	9	6	78	100

Source: Primary Data

Table 10.1 showing Observed Frequency and Expected Frequency

Level of satisfaction	Observed Frequency				Expected Frequency			
	Less than 30	30- less than 40	40- less than 50	50 & above	Less than 30	30- less than 40	40- less than 50	50 & above
Extremely satisfied	-	3	-	-	3.12	4.15	1.04	0.69
Satisfied	18	21	3	3	15.58	20.77	5.19	3.46
Neutral	3	12	3	3	7.27	9.69	2.42	1.62
Dissatisfied	-	-	-	-	0	0	0	0
Extremely dissatisfied	-	-	3	-	1.04	1.38	0.35	0.23

Table 10.2 Showing the calculation of S«² value

O	E	(O – E)	(O – E)²	(O – E)²/ E
6	3.12	2.88	8.2944	2.6585
18	15.58	2.42	5.8564	0.3759
3	7.27	-4.27	18.2329	2.508
0	0	0	0	0
0	1.04	-1.04	1.0816	1.04
3	4.15	-1.15	1.3225	0.3187
21	20.77	0.23	0.0529	0.0025
12	9.69	2.31	5.3361	0.5507
0	0	0	0	0
0	1.38	-1.38	1.9044	1.38
0	1.04	-1.04	1.0816	1.04
3	5.19	-2.19	4.7961	0.9241
3	2.42	0.58	0.3364	0.1390

0	0	0	0	0
3	0.35	2.65	7.0225	20.0643
0	0.69	-0.69	0.4761	0.69
3	3.46	-0.46	0.2116	0.0612
3	1.62	1.38	1.9044	1.1756
0	0	0	0	0
0	0.23	-0.23	0.0529	0.23
			$S\chi^2$	33.1585

Table value:

$V = (r - 1)(c - 1) = (5 - 1)(4 - 1) = 4 \times 3 = 12$

Table value: $S\chi^2 = 21.0$

Chart 10: Showing the level of satisfaction towards ordering online food during pandemic.

Interpretation: The above chart indicates that during pandemic 58% of the respondents are satisfied with ordering food online among which 21 respondents belong to the age group of 30 to less than 40 years and 18 respondents are below 30 years of age.11% respondents are extremelysatisfied of whom 6 respondents are below 30 years of age. 27% are neutral while 3 respondents

are extremely dissatisfied.

At 5% Level of significance Table value is $S\chi^2 = 21.0$, since the calculated value $S\chi^2 = 33.1585$ is greater than the table value, the hypothesis is rejected. Hencethere is a significant difference between the age and level of satisfaction towards ordering online food during pandemic.

Applying Chi-square Test:

H_0: There is no significant difference between the age and preference of respondents ordering food online post pandemic

Table 11: Showing the preference of respondents ordering food online post pandemic

Preference	Less than 30	30 to less than 40	40 to less than 50	50 and above	Total	Percentage (%)
Regularly	0	3	0	0	3	4
Often	12	0	0	0	12	15
Sometimes	15	27	6	6	54	69
Never	0	6	3	0	9	12
Total	27	36	9	6	78	

Table 11.1: Showing Observed Frequency and Expected Frequency

Preference	Observed Frequency				Expected Frequency			
	Below 30	30- less than 40	40- less than 50	50 & above	Below 30	30- less than 40	40- less than 50	50 & above
Regularly	0	3	0	0	1.04	1.38	0.35	0.23
Often	12	0	0	0	4.15	5.54	1.38	0.92
Sometimes	15	27	6	6	18.69	24.92	6.23	4.15
Never	0	6	3	0	3.12	4.15	1.04	0.69

Table 11.2 Showing the calculation of $S\chi^2$ value

O	E	(O − E)	(O − E)²	(O − E)² / E
0	1.04	-1.04	1.0816	1.04
12	4.15	7.85	61.6225	14.85
15	18.69	-3.69	13.6161	0.7285
0	3.12	-3.12	9.7344	3.12
3	1.38	1.62	2.6244	1.9017
0	5.54	-5.54	30.6916	5.54
27	24.92	2.08	4.3264	0.1736
6	4.15	1.85	3.4225	0.8247
0	0.35	-0.35	0.1225	0.35
0	1.38	-1.38	1.9044	1.38
6	6.23	-0.23	0.0529	0.0085
3	1.04	1.96	3.8416	3.6938
0	0.23	-0.23	0.0529	0.23
0	0.92	-0.92	0.8464	0.92
6	4.15	1.85	3.4225	0.8247
0	0.69	-0.69	0.4761	0.69
			$S\chi^2$	36.2755

Table value:
$V = (r − 1)(c − 1) = (4 − 1)(4 − 1) = 3 \times 3 = 9$
Table value: $S\chi^2 = 16.9$

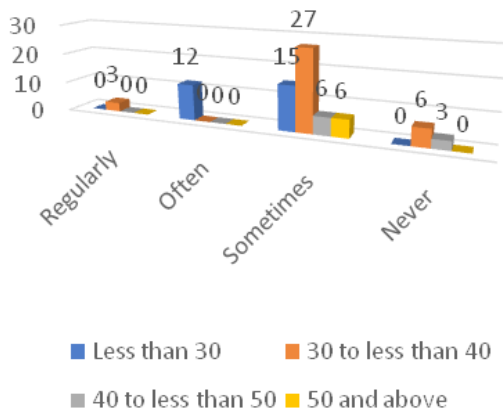## Preference to order food online Post Pandemic

Chart 11: Showing the preference of respondents ordering food online post pandemic

Interpretation: The above graph indicates that after pandemic 69% of the respondents would sometimes prefer to order food online of which 27 respondents are between the age group of 30 to less than 40, while 12 respondents belonging to the age group of less than 30 years would often order online food. 4% would order regularly and 12% respondents would never order online food.

At 5% Level of significance Table value is $S«^2 = 16.9$, since the calculated value $S«^2 = 36.2755$ is greater than the table value, the hypothesis is rejected. Hence there is a significant difference between the age and preference of respondents ordering food online post pandemic.

Findings:

- In this study 73% are females and 27% are male respondents.

- 46% of the respondents belong to the age group of 30 to less than 40 years, 35% respondents are below 30 years, 11% are between 40 to 50 years and 8% of them are of the age 50 and above.

- Majority of the respondents earn between 20,000 to less than 40,000 income per month, 35% of them earn less than 20,000.

- Among the respondents 46% preferred restaurants for having food before pandemic, while 31% preferred ordering food online. 23% of them preferred all, that is restaurants, ordering food online, in-car dining to have food before pandemic.

- 50% of the respondents preferred to order food online once a month before pandemic.

- Even during pandemic 50% of the respondents do order food online once a month, 31% order less than 3 times a week while 11% of the respondents order food online more than 5 times a week and 8% respondents order food 3 to 5 times a week through online app during pandemic.

- Among the factors that influence the decision of respondents to choose food ordered online, 29% consider convenience and saving in time are the factors, 22% of them consider ease in ordering, 14% consider safety and 6% consider others factors like offers, easy accessibility of available options with quick search.

- 54% of the respondents prefer food in restaurants to get a break from work or to refresh. 34% respondents would like to meet their friends, relatives and make discussions in restaurants. 4% of them are of the perception that factors like convenience, being a habit to visit restaurants and such other factors that enable them to prefer food in restaurants.

- Majority of the respondents that is 50% of the respondents consider that it takes more time to get the delivery of food ordered online. 23% of them say network issue is one of the challenges faced by them.

- 58% of the respondents are satisfied with ordering food online during pandemic and 11% are extremely satisfied. 27% are neutral while 4% are extremely dissatisfied.

- After pandemic 69% that is majority of the respondents would sometimes prefer to order food online, 15% would often order, 4% would regularly order while 12% respondents would never order online food.

Suggestions:

➢ High quality food and good presentation becomes one of the factors in choosing a restaurant for online order thereby leaving a lasting impression on the restaurants.

➤ Customers expect the food to be delivered quickly for which the restaurants can follow an efficient order management system or streamline the operations with a third-party food delivery platform.

➤ In order to encourage the customers to order food more often through online application, restaurants offer promotions like takeout exclusives. They must also make it flexible for the customers to choose among the offers like a customers could choose more quantity than other offers.

➤ Restaurants can ensure that packaging of food is in the right way and tamper-proof.

➤ The online process of ordering food needs to be simple and the customers problems will have to be addressed quickly.

Conclusion:

With the growing consumer demand, evolving technology and during Covid-19 pandemic the restaurants need to provide services to the customers on their fingertips apart from on-premises dining. To stay ahead in the competition restaurants haveswitched to this new technology, venturing into the digital space. Investing a small amount of money every month on such technologies will enable them to survive in this pandemic. At the same time few customers are habitualized with the on-premises dining for several reasons and catering to their needs becomes equally important for the restaurants.

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A STUDY ON CUSTOMER SATISFACTION TOWARDS SERVICES PROVIDED AT INDIAN RAILWAY CATERING & TOURISM CORPORATION LIMITED, BANGALORE REGION

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Abstract:

Customer satisfaction refers to the extent to which customers are happy with the products and services provided by a business. Customer satisfaction levels can be measured using survey techniques and questionnaires. There are numerous elements that contribute to high levels of consumer satisfaction, including customer-focused products and services that deliver high levels of value for money. This paper attempts to analyse the customer satisfaction levels with respect to the services provided at IRCTC Ltd. Bangalore region with a special focus on the quality and freshness of food, pricing of tickets, user friendly experience of the website and e- ticketing services etc.

Key words: Customer satisfaction, IRCTC services, level of satisfaction

Introduction:

Customer satisfaction is a metric used to quantify a customer's level of satisfaction with a product, service, or experience. It assesses a customer's opinion of a company or a brand. Customer happiness is critical for a business since satisfied customers are more likely to be loyal, place repeat orders, and use a wide range of services. Indian Railway Catering and Tourism Corporation Ltd. has been set up by the Ministry of Railways with the basic purpose of hiving off the entire catering and tourism activity of the railways to the new Corporation so as to professionalize and upgrade these services with public-private participation. Rail based Tourism in India will be the specific vehicle for achieving high growth in coordination with state agencies, tour operators, travel agents and the hospitality industry. A dynamic marketing strategy in association with public and private agencies, tour operators, transporters, hoteliers and local tour promoters are on the anvil. Indian Railways span global volumes in the hospitality and catering sectors with services provided to 13 million passengers every day.

Main objectives of the Study:

- To gain a better understanding of the customer's behaviour.

- To gain a better understanding of the aspects that influences a customer's user experience.

- To determine the customer's degree of satisfaction.

Scope and Significance of the Study:

The study will attempt to provide some insight into the existing products and services provided by Indian Railway Catering and Tourism Corporation Limited (IRCTC Ltd) to customers, as well as the gap between customer expectations and current performance. The study will also provide an overview of customer perceptions of IRCTC ltd. The study's scope is limited to the Bangalore region (Karnataka) and is primarily focused on customer satisfaction.

Methodology:

Primary data: The data was acquired through the use of a structured questionnaire and a random sampling procedure was used with a total of 75 respondents. Respondents are IRCTC Ltd. customers who have been contacted through online (E-mails, SMS, telephone etc).

Secondary data: Secondary data was gathered using specifications from readily available material, publications and company's annual reports and official website

Limitations of The Study:

• Owing to the current Lockdown Situation which had a major hit on the Travel and Tourism and Hospitality Industry throughout the world due to the COVID-19 Pandemic, the study's major constraint is the low number of current users for IRCTC Ltd.

• The study's duration is quite short, resulting in insufficient in-depth access due to time constraints.

• The sampling method, sample size, and conclusion are insufficient to draw more accurate conclusions.

Major Findings of the Study:

• Out of the total respondents, it is clear that, 4 percentage of responders feel that the freshness & taste of the food served by IRCTC is poor, 28 percentage of responders feel that it is satisfactory, 45.3 percentage of responders feel that it is good, 16 percentage of responders feel that it is very good and only 6.7 percentage of responders or respondents feel that it is excellent.

• Out of the total respondents, it is clear that, none of the respondents feel that the price of the food served by IRCTC is under priced, 26.7 percentage of the respondents feel that the price of the food served by IRCTC is overpriced, 73.3 percentage of responders of the respondents feel that the price of the food served by IRCTC is rightly priced.

• The perception of the respondents regarding the mode of booking tickets of preferred, 1 percentage of the respondents use i-ticket to book their tickets, 9.3 percentage of the respondents use travel agents to book the tickets, 13.3 percentage of the respondents book the tickets in-person and 76 percentage of the respondents use e-ticket.

• The perception of the respondents regarding the pricing made by IRCTC, out of the total respondents, it is clear that, around 13 percentage of the respondents feel that the price of the tickets fixed by IRCTC is under-priced, 60 percentage of the respondents feel that the price of the tickets fixed by IRCTC is rightly priced, around 27 percentage of the respondents feel that the price of the tickets fixed by IRCTC is overpriced.

• The perception of the respondents regarding the refunding mechanism by IRCTC, out of the total respondents, it is clear that, around 04 percentage of the respondents feel that the refunding mechanism is poor, 18.7 percentage of the respondents feel that the refunding mechanism is satisfactory, 40 percentage of the respondents feel that the refunding mechanism is good, 13.3 percentage of the respondents feel that the refunding mechanism is very good and 20 percent of the respondents feel that the refunding mechanism is excellent.

• In User friendliness of IRCTC Website criteria, 08 responders felt very good and 55 responders felt good and 12 responders felt average.

• Likewise, in Ambience & Hygiene (at station) criteria, a major share of 38 and 35 respondents felt good and average respectively, only very few felt it was very poor.

• In the Ambience & Hygiene (inside train) criteria, a major share of 34 and 25 respondents felt very good and good respectively, 13 responders felt average and only 03 responders felt very poor.

• In the Comfort of traveling criteria, a major share of 31 respondents felt just good. But a similar share of 24 and 20 respondents felt average and good respectively.

• The final criteria is Staff behaviour, a major share of 33 and 40 respondents felt very good and good respectively, only 02 responders felt very poor.

Suggestions

• To attract more customers, the organisation should focus on enhancing the quality of food it provides over time.

- To increase customer satisfaction, management should provide more intensive training to its employees on soft skills and customer handling approaches.

- Management should focus on improving ambience as well as hygiene at stations along with inside the trains. It will definitely enhance the customer satisfaction level.

- To provide greater customer satisfaction, management should focus on improving user-friendly mobile applications which are more convenient to know the train arrival and departure timings, ticket booking status, seat allotment, train current location etc.

- To serve its customers better, from time to time they must collect their valuable feedback, suggestions, and complaints.

- During the season, increase the capacity of seats or coaches to avoid rush.

- Based on current requirements, the company must upgrade its service quality procedures, such as Fast ticketing services, Working on a website, Update relevant information, Improved staff behaviour, Enhance customer care support.

Conclusion:

Today's marketing is mostly customer-focused, with a greater emphasis on consumer pleasure and perception. Service sectors, in particular, place a greater emphasis on the client. According to this report, the majority of customers are satisfied with the services provided by IRCTC. To keep current clients as well as win new ones, the company should constantly improve the quality and availability of its products. These actions will result in Customer satisfaction contributing to the company's long-term success.

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CHALLENGES FOR RURAL WOMEN ENTREPRENEURS IN HARYANA

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ABSTRACT

The authors emphasize on women entrepreneurs with their challenges that includethe rural women in Haryana. Most recent ten years of Indian economy make it apparent that the design of possession in various areas has changed. This development pace of women's interest in monetary exercises is a lot of lower than the normal rate. Since in Haryana, there are as yet numerous social and social limitations on women. Women entrepreneurship improvement is the instrument of women strengthening. As in Haryana, there are around 66% of female populace in the rural area are Idle and unutilized. So monetary of rural women and social improvement is important for in general financial advancement of society and country. The current paper tends to difficulties looked by women entrepreneurs in rural regions of Haryana and further more investigates the chances winning for rural women entrepreneurs.

Keywords:- Challenges, Entrepreneurship, Women Entrepreneurs, Haryana

INTRODUCTION

An entrepreneur is one of the significant portions of financial development. "Entrepreneur" is an English word that has been advanced from French word "Entreprendre", which signifies "To Undertake" and was utilized predominantly in French to depict a "Supervisor or Promoter of a dramatic creation." Entrepreneur is one who practice activity by getting sorted out a dare to accept advantage of an open door and, as the leader, chooses what, how and the amount of a decent and administration will be delivered. An entrepreneur is an individual who sets up a business or organizations, facing a monetarychallenge in the desire for benefit. Women entrepreneurs have been assigned as the new motors for development and the rising stars of the economies in agricultural nations to bring success and government assistance. A lady entrepreneur is a grown-up who claims and runs a venture, particularly a business one, regularly at individual monetary danger. Women Entrepreneurs might be characterized as the women or a gathering of women who start, coordinate and work a business endeavor. The Government of Haryana has characterized women entrepreneurs as an endeavor claimed and constrained by women having a base monetary premium of 51% of the capital and giving in any event 51% of the work produced in the venture to women. Entrepreneurship advancement among rural women assists with improving their own capacities and increment dynamic status in the family and society overall.

The idea of women entrepreneurship is turning into a worldwide marvel assuming a crucial part in the business local area. In India, women have made a similarly late section into business situation chiefly because of the conventional and customary socio-

social climate. Despite the fact that women deal with different issues during the time spent setting up, creating and running their undertakings, by the by, their extent of advancement is high in India, particularly in rural zones with more women making improvement situated program viz. Improvement of Women and Children in Rural Areas (DWCRA) which was dispatched in 1982-83. In what follows, an endeavor is made to investigate the accomplishment of such a plan regarding its endurance, development and advancement of women entrepreneurs also, distinguish the issues looked by the women entrepreneurs.

The need of great importance is to basically harp on the conviction that the monetarily poor have natural abilities and will to arise out of neediness. They are entrepreneurial in nature and the help required is regarding reinforcing their capacities to produce significant business and fitting business sector linkages at worldwide level. It tends to be expressed that right now, the current enabled women framework are changing the economy of the country. Recognizably, they are contributing as occupation worth capital addition of $200 million. This denotes that advancement can be resolved from the improvement of women in rural regions.

REVIEW OF LITERATURE

Kumari (2012) in the topic "Challenges and opportunities for women entrepreneurship in India under globalization" aimed her study was to investigate the diverse issue and difficulties confronting women entrepreneurship in India after freedom. Both essential and optional information was gathered under research. Essential information was gathered from the individual meeting and auxiliary information from diaries, web and so forth. The creator found that women share in business and industry is low and in India, the vast majority of the women occupied with the home items and house industry consolidating custom action and valuable of pay age.

Siddiqui (2012) in her examination entitled as "issue experienced by women entrepreneur in India" which was an exploratory examination endeavored to discover the issues experienced by women entrepreneurs. The information was gathered essential and optional information. The essential information assortment was finished with the assistance of unstructured poll. A portion of the serious issues distinguished were family commitment, issue of account, male-female rivalry and the equivalent could be defeated through suitable preparing, motivators, consolation and inspiration and family moral help as proposed by the creator.

Manjunatha (2013) in her examination "The rural women entrepreneurial issues" talked about different issues looked by women like general inclination in conventional establishment, Paradox of ignorance brings about absence of information and abilities, absence of monetary help, unevenness among family and calling, absence of mindfulness about the public authority program, disappointment of preparing in abilities, less market information, less interpersonal organization is the impediments which is going ahead the method of entrepreneur. On the off chance that women can adapt to this issue, they gleam on two faces society and family.

Sanchita (2013) through her examination "Women Entrepreneur in Haryana: difficulties and issues" featured different tested looked by women entrepreneur in maintaining their business. This examination essential information was associated from 210 women entrepreneur by close to home meeting. The issue as working capital, dispersion channel, deals advancement, power, human asset and rivalry were discovered to be fundamental snags.

Vijaykumar and Jayachitra (2013) by her examination work entitled as "Women Entrepreneur in India-arising issue and difficulties" featured difficulties looked by women. Such features were: lack of money and crude material, promoting issues, rivalry, significant expenses of creation, legitimate customs, credit offices, family struggle and so forth. They likewise offered idea to conquer the issues like money cell, promoting co-usable, supply of crude material, instruction and mindfulness, preparing offices to women and so forth.

Satpal, Rathee and Pallavi (2014) in "Difficulties looked by women entrepreneur in the current innovation period" with objective of study the idea of women entrepreneur and difficulties looked by them in India. This paper depended on optional information and perception. Finding of the investigation shows nonappearance between the family and vocation, social-culture hindrance, male ruled society, low degree of training, showcasing and entrepreneurship abilities are serious issue in women entrepreneur improvement. A few ideas are likewise given in regard of the issues.

CHALLENGES FOR RURAL WOMEN ENTREPRENEURS IN HARYANA

The primary difficulties that women face in business are instructive and work foundation, Balancing their time divide among work and family, Problems of raising beginning up capital, Difficulty in acquiring store, Thought-cut fulfillments jeopardized presence of little organizations, Problems of benefiting crude materials admittance to send out market without mediators, just as a generally mental boundary with respect to banks, providers, and customers the same, are a couple of these difficulties. Notwithstanding this a portion of the difficulties looked by rural women entrepreneurs are as per the following:-

1. Lack of education

Indeed, even in 21st century, rural women in India are lingering a long ways behind in the field of training. The majority of the rural women are ignorant. Women in rural zones who are taught are given either less or insufficient schooling than their male partner somewhat because of destitution, early marriage, low financial status, part of the way because of child's advanced education. Because of absence of legitimate instruction, women entrepreneurs stay in dim about the improvement of new innovation, new strategies for creation, showcasing and other administrative help which will urge them to thrive.

2. Male Dominated Society

In our constitution there are equivalent rights for people however in genuine sense balance doesn't exist in rural regions. Women are being disregarded in numerous circles of life. Women are not treated equivalent to men. All things considered, individuals have a set disposition that women are just for family work. Their entrance to business needs the endorsement of the top of the family. Entrepreneurship has generally been viewed as a male safeguard and male ruled. All these put a break in the development of women entrepreneurs. In this manner male entrepreneurs become obstacle in the achievement of women entrepreneurs.

3. Family ties

Women in our nation are sincerely connected to their families. They are as a rule exceptionally less reasonable. They should do all the family work, to take care of the youngsters and different individuals from the family. They are over troubled with family duties like consideration of youngster additional regard for spouse, and parents in law which remove a heaps of their time and energy. In such conditions, it will be hard for women to think and run the venture effectively.

4. Issue of account

Women entrepreneurs need to endure a great deal in raising and meeting the monetary necessities of the business, investors, loan bosses and monetary establishments are not approaching to give monetary help to women borrowers on the ground of their less credit value and more odds of business disappointment. They likewise deal with monetary issue because of blockage of assets in crude materials, work-in-progress completed products and non-receipt of installment from clients on schedule.

5. Absence of Raw Materials

Because of helpless street network and helpless transportation, it is very hard to make accessibility of crude materials all the time in rural zones. Accessibility of crude materials is a fundamental segment of entrepreneurship. Women entrepreneurs in rural zones truly face an intense errand in getting the necessary crude material and other essential contributions for the endeavors when the costs are high.

6. Extreme rivalries

In the period of innovation, women entrepreneurs face a great deal of issues and difficulties. Normally women entrepreneurs don't utilize high innovation during the time spent creation. In a market where the opposition is excessively high, they need to contend energetically to get by in the market against the coordinated area and their male partner who have huge experience and ability to receive trend setting innovation in overseeing ventures.

7. Significant expense of creation

A few components including wasteful administration add to the significant expense of creation which remains as a hindrance before women entrepreneurs. Women entrepreneurs face innovation outdated nature because of non-appropriation or moderate selection to changing innovation which is a main consideration of significant expense of creation.

8. Generally safe bearing capacity

In our country, by and large women are sensitive and passionate commonly. An entrepreneur should have hazard bearing limit with respect to being fruitful entrepreneur. However, women, here and there neglect to bear the sum hazard which is fundamental for running a venture. Absence of appropriate schooling, preparing and monetary help from exterior likewise decrease their capacity to bear the danger engagedwith an undertakings.

9. Portability limitations

In our country, fundamentally in rural territory, women versatility is exceptionally restricted and has become an issue because of conventional qualities and failure to drive vehicles. Moving alone and requesting a space to remain out in the night for business intentions are as yet viewed with dubious eyes. Now and again, more youthful women feel awkward in managing men who show additional interest in them than business related perspectives. Hence security of women is additionally a significant test.

10. Social Barriers

The practices and customs pervasive in Indian social orders towards women here and there remain as an obstruction before them to develop and succeed. Positions and religions rule with each other and impede women entrepreneurs as well. In rural zones, they face more friendly obstructions as they are constantly seen with dubious eyes.

11. Absence of entrepreneurial fitness

Absence of entrepreneurial fitness is a significant worry for rural women entrepreneurs. They have no entrepreneurial twisted of brain. Here and there even subsequent to going to different preparing programs on entrepreneurship, women entrepreneurs neglect to hold over the dangers and inconveniences that may come up in a hierarchical working.

12. Lawful customs

To satisfy the legitimate customs needed for running an endeavor turns into a commotion task with respect to a women entrepreneur in light of the predominance of degenerate practices in government workplaces and procedural deferrals for different licenses, power, water and shed designations. In such circumstances women entrepreneurs think that its difficult to focus on the smooth working of the undertaking.

OPPORTUNITIES FOR RURAL WOMEN ENTREPRENEURS IN HARYANA

There is openhanded proof to support that in the event that more women are roused and are given the necessary consolation and help for turning out to be entrepreneurs, they would contribute altogether in running feasible business endeavors. There are a few projects and plans and plans both by focus and state government at various levels for inspiration and backing to rural women entrepreneurs in Haryana. In 1999-2000, the Govt. of India dispatched "SwarnaJayanti GramSwarozgarYojana" program for advancing neediness easing through independent work and the association of poor into Self-Help

Groups (SHG). Advances gave under this plan are treated as medium-term advances. The SHGs have given another rent of life to the women in towns for their social and monetary strengthening. There is public strategy for establishing a climate through certain financial and social arrangements for full improvement of women to empower them to understand their maximum capacity. These arrangements give chances of equivalent admittance to investment and dynamic of women in friendly, political and interest in financial advancement of the country. There are diverse professional preparing programs for women by service of work and business, they have set up territorial professional preparing foundations for advancement of entrepreneurial abilities Following are the significant projects for improvement of entrepreneurship in Haryana:-

- IRDP: Integrated Rural Development Program: The fundamental destinations of integrated rural improvement Program is to upgrade the pay producing force of family who are beneath the destitution line to reduce the neediness. They grant specialized and entrepreneurial abilities and raise the pay level of poor people.

IRDP (Integrated Rural Development Program) partnered programs TRYSEM (Training Rural Youth for Self Employment) DWCRA (Development of Women and Children in Rural Areas) [10].

- JRY (JawaharRozgarYojna): It is wage Employment program carried out by Panchayats at Village, Block and District level in the proportion. 70:15:15 and so on

- Support and Training and Employment Programme for Women (STEP)

- SwarnaJayanti Gram SwarozgarYojana (SGSY)

- SampoornaGrameenRozgarYojana (SGRY), including Food Grains Component

- Assistance for Rural Employment Guarantee Schemes

- National Social Assistance Programme (NSAP)

- National Rural Employment Guarantee Act (NREGA)

- National Food for Work Programme (NFWP)

- National Common Minimum Programme (NCMP)

CONCLUSION

It can be easily concluded, that for the advancement of an economy, rural women strengthening should be engaged upon. Rural territories need uncommon changes in regions like foundation, credit accessibility, proficiency, neediness annihilation, and so on Women are a significant human asset of the country and each state should attempt to use them as arbiters of financial development and advancement. Support for women entrepreneurship is one of the ways for that. Yet, tragically it is seen that the conventional attitude of the general public and carelessness of the state and separate specialists are significant snags in the women entrepreneurship advancement in Haryana. Women need consolation and backing from the relatives, government, society, male partners and so forth, with the correct help. The solitary earnest need is to make a good air to expand independent work for women. Consequently, it is important to give preparing to rural women to improve their entrepreneurial expertise and giving a way of accomplishment to rural women.

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"A STUDY ON TEACHER'S PERCEPTION TOWARDS ONLINE TEACHING"

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Abstract:

In a traditional country like India, we still follow traditional classroom learning but the covid-19 pandemic has changed the situation and now India is ready to impart technology based online education. Due to the pandemic, it was compulsory to shift the classroom learning to online learning if not it was like wasting the time of the young students without imparting knowledge. It's been almost more than one and half years world is suffering with covid-19 in this type of situation where social distancing is must digital online platform have played an important role in all the fields.The present study is an attempt to examine the perception of a teacher towards online education and study the challenges faced by them during conducting the online classes. The major Objectives of the study are 1 To Study the perception of teachers towards online teaching 2. To analyze the challenges faced by teachers during online classes.Review of Literature- In order to understand theperception of a teacher towards online education, the Study conducted in India and Abroad has been studied. Sample -The present study conducted in Dharwad and Gadag District. The random sampling design was employed for the selection of the Teachers. The total 150 teachers, 90 male and 60female were randomly selected from different Degree College, of Dharwad andGadagDistrict for the present study. Method-Research paper is basically descriptive and analytical in nature and is based on both primary and secondary data according to the need of this study. Tools Used-Structured questionnaire designed by Researcher keeping in view of different Components of teaching, applications used to online teaching, issues faced for using the online tools etc. Statistical Techniques-Cross tabulation and percentage analyses are used for the analysis of thedata.Findings-1.Out of 150, 40% teachers prefer to conduct offline mode of teaching.2.Even though they prefer offline mode, 26.6% are also comfortable in online teaching.3.Out of 150, 113 teachers were trained enough to conduct the online classes.4.As the applications are user friendly, most of the faculties are using Zoom (60%) and Google meet (45%) 5.There are many challenges faced by the teachers for conducting the online classes, majority (29.5%)of them were facing the problem of adaptability,24.5% were facing the technical issues and remaining 26.% & 20% are facing the problem of time management and computer knowledge.

Key words:Perception, Online Teaching,Learning, Online Resources

Introduction

Online teaching-learning has invaded total education process in the recent times, especially during covid19 pandemic. In spite of closure of educational institutions; the teaching-learning has been carried out uninterruptedly by means of online mode. A drastic change in the education system as educational institutes is forced to progress from classroom learning to E-learning / online learning. And the importance of online classes has been increased very rapidly and the ICT has been a guide for distance learning.

Online education has been the most happening trend in the field of education. With the help of advanced technologies, this mode of learning has been made simpler. Mostly this type of education is highly preferred in higher education. In Online education, the students can attend the class anywhere from the far place and it's more convenient. They are acquiring the study material /notes through online itself which may be in form of texts, audios, videos and images. Some of the advantages of Online teaching is Flexibility of time and place,online resources, information sharing etc, disadvantages can be no access

to internet/technology, knowledge to use technology etc. Despite of disadvantages the teachers are trying their best enough to conduct the online classes. There are many online applications like Zoom, Microsoft teams, Google meet etc, for conducting online classes and many of them are not familiar to the technology , so it the responsible of the management to provide the adequate training facilities to the faculties such that the online classes may be effective.

1. Concept of Perception, Online Teaching and Learning

a) Perception:Perception is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli.

b) **Online teaching**

Online teaching is the process of instruction in an online, virtual or networked, environment in whichteacher and students participate from separate physical locations. It provides opportunities to accessand share information more easily and readily.

c) **Learning**

"Learning is a permanent desirable series of changes in behaviour and experience. It does notinclude change due to illness fatigue, maturation and use of intoxicants."

"Learning is a process of bringing relatively permanent changes in behaviour through experience."

2. Need and Importance the Study:

The present study aims to examine the perception of a teacher towards online education and study the challenges faced by them during conducting the online classes. It attempts to shows the perception of a teacher towards online Teaching.

3. Limitations of the Study

It covers only respondents from Dharwad and Gadag districts, by keeping a sample of 150.

Objectives

This paper examines the perception of a teacher's towards online teaching and study the challenges faced by them during conducting the online classes.

i. To Study the perception of teacher's towards online teaching

ii. To analyze the challenges faced by teacher's during online classes.

4. Review of Literature

In order to understand theperception of a teacher towards online education, the Study conducted in India and Abroad has been studied.

5. Statement of Problem:"A study on Teacher's Perception towards Online Teaching"

6. Hypotheses: The null hypotheses were set up for the present study.

7. Design of the Study

- Method: Research paper is basically descriptive and analytical in nature and is based on both primary and secondary data according to the need of this study.

- Sample: The present study conducted in Dharwad and Gadag Districts. The random sampling design was employed for the selection of the Teacher and Students. The total 150 teachers, 90 male and 60 female teachers were randomly selected from different Degree College, of Dharwad and Gadag Districts for the present study

- Tools Used: A Structured questionnaire designed by Researcher keeping in view of different Components of teaching, applications used to online teaching, issues faced for using the online tools etc.

8. Data Collection procedure

A structured questionnairewas prepared and used for assessing the Teacher's Perception towards online teaching. Structured questionnaires used by the investigator were administered to the teachersworking in different colleges of Dharwad and Gadag districts.The responses of teachers have been collected by the investigator. Theresponses were given by the teachers were relevant to the subject.

9. Statistical Techniques

Simplecross tabulation and percentage analyses are used.

10. Analysis and Interpretation:

Figure 1: Response towards preferred mode of teaching
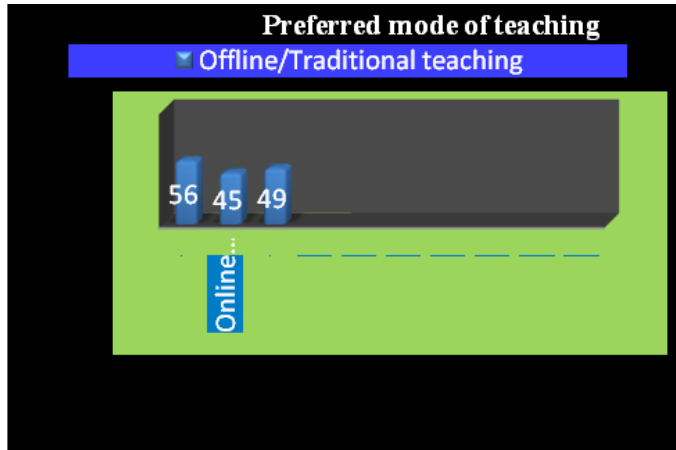
This result indicates that majority of the teacher's i.e. Around 37.33% are comfortable with the offline /traditional mode of teaching and 30% prefer the online teaching, remaining 32.66% of them feel that the mode of teaching differs from time to time.

Figure 2: Response towards applications used for online teaching
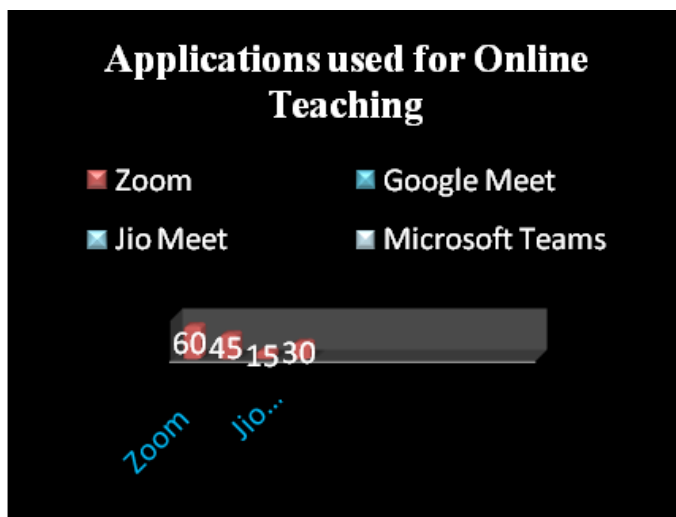
This result indicates that most of the teachers are familiar with the application Zoom and Google meet for conducting online classes. Majority i.e. 60 % uses zoom and least usage is with Jio meet i.e. 15 %.

Figure 3: Response towards the challenges faced by the teachers while using online tools
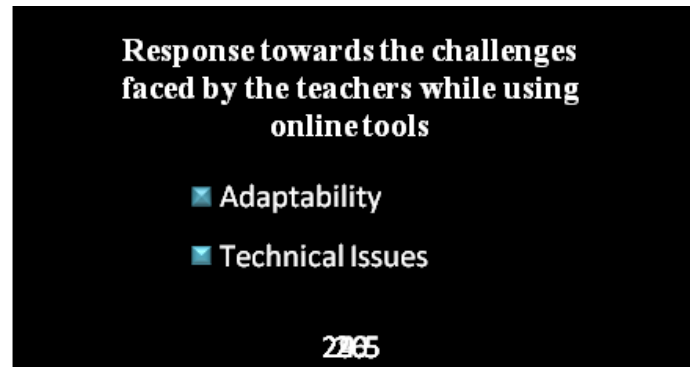
The above chart represent that 29.5 % of faculties are not adaptable with online tools, 24.5% were facing the technical issues and remaining 26% &20% are facing the problem of time management and computer knowledge.

Figure 4: Response towards tools used for visualizing the lecture topic
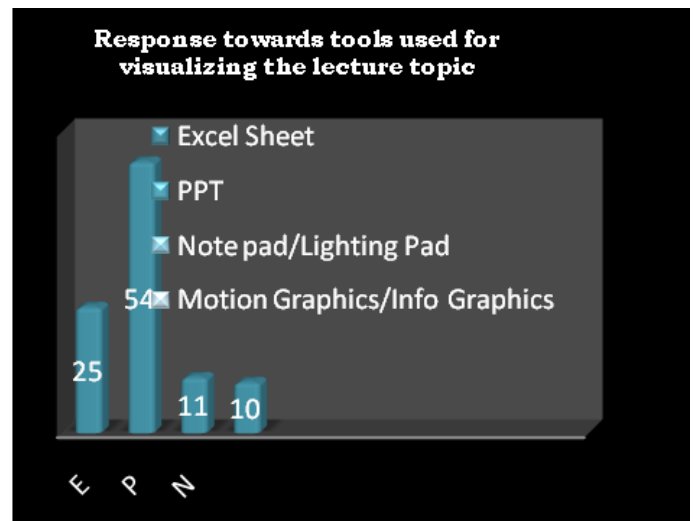
This results indicates that majority (54%) of the teachers are using the PPT for visualizing the concepts and 11% are using the note pad /lighting pad and 25 % are using the excel sheets for explaining the Practical concepts. Only 10-% are using the Motion /info graphics.

Figure 5: Response towards online assessment

online assessment is very challenging for teachers
52 responses

- ● Strongly disagree
- ● Disagree
- ● Neutral
- ● Agree
- ● Strongly agree

63.5%
13.5%
21.2%

Figure 6: Response towards communication gap between students & teachers

Is online teaching reducing the communication gap between students & teachers
52 responses

- ● Strongly disagree
- ● Disagree
- ● Neutral
- ● Agree
- ● Strongly agree

75%
9.6%
15.4%

This result indicates that almost 63.5% of them strongly agree that online assessment is very challenging and remaining 13.5% are neutral.

From the above chart, it clearly stated that almost 75 % of the teachers strongly feel that there is a communication gap between students and teachers in online teaching. Remaining 9.6 % are neutral.

Table 1: Analysis of teacher's perception towards Online teaching questions based on Age Group

Questions	Age group	Yes	No	Sometimes it varies
Is online teaching comfortable	25-30	32	6	5
	30-40	15	09	14
	40-50	03	01	0
Are the applications user friendly	25-30	19	07	5
	30-40	12	0	21
	40-50	0	0	1
Do you use both audio and video while conducting the online classes	25-30	40	11	1
	30-40	32	05	14
	40-50	11	14	1
Is it easy to clarify the students doubts during online classes	25-30	17	1	11
	30-40	10	4	19
	40-50	0	3	0

This table indicates that age factor seems to play an important role in teacher's response towards questions on online education. The above results states that, teachers of 25-30 age group are more comfortable in online teaching than comparative to the age group of 30-40 & 40-50, as they are aware of technology and its usage. And majority of teachers belonging to 25-30 age groups uses both audio and video mode while conducting the online classes and teachers of 30-40 age group use both the audio and video depending on the lecture topic.

11. Major Findings

- Out of 150, 40% teachers prefer to conduct offline mode of teaching.

- Even though they prefer offline mode, 26.6% are also comfortable in online teaching.

- Out of 150, 113 teachers were trained enough to conduct the online classes.

- As the applications are user friendly, most of the faculties are using Zoom (60%)and Google meet (45%)

- There are many challenges faced by the teachers for conducting the online classes, majority (29.5%)of them were facing the problem of adaptability,24.5% were facing the technical issues and remaining 26.% & 20% are facing the problem of time management and computer knowledge.
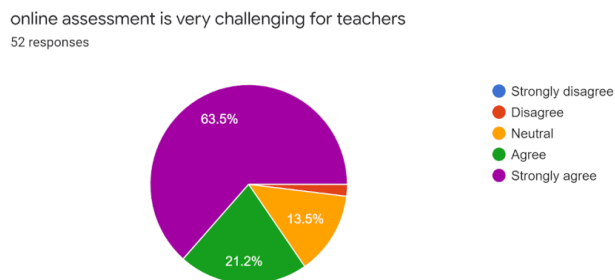
- Out of 150, 83 teachers uses both audio and video mode while conducting the classes , 26 teachers at times they use both and remaining 04 they won't use audio and video simultaneously.

- Majority (54%) of the teachers are comfortable in using the PPT for visualizing the concepts and 11% are using the note pad /lighting pad and 25 % are using the excel sheets for explaining the Practical concepts. Only 10% are using the Motion /info graphics.
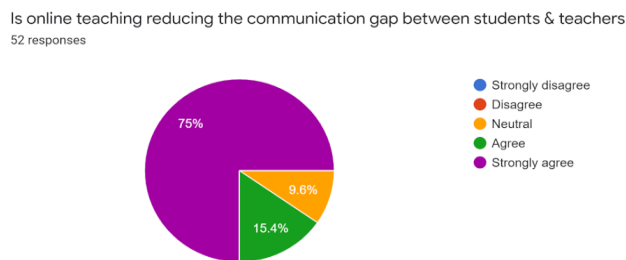
- 63.5% of teachers strongly agree that online assessment is very challenging and remaining 13.5% are neutral.

- 75 % of the teachers strongly feel that there is a communication gap between students and teachers in online teaching. Remaining 9.6 % are neutral.

- Age factor seems to play an important role in teacher's response towards questions on online education. As the teachers of 25-30 age group are more comfortable in online teaching than comparative to the age group of 30-40 & 40-50, as they are aware of technology and its usage.

12. CONCLUSION

Online teaching is an exciting way of teaching, as it involves innovative methods to teach. Due to this pandemic the importance has been increasing tremendously. The teachers are trying to deliver the lecture in the best and simplest way. The only problem is that many of the teachers are facing the lack of awareness, usage regarding the online applications/ tools. The management has to provide enough training facilities to the faculties, such that they are enough confident while delivering the lecture.Though, young teachers are very much comfortable with online teaching as they are aware about the technology and its usage. And it is observed that there is more communication gap between the students and teachers due to this online teaching, this can be overcome by creating an interactive environment and by interactive questions and answers activities etc.However, this online teaching can't replace the face to face classroom teaching. But we can't ignore the benefits derived from online teaching. Due to this pandemic, we can't stop teaching and learning so there is a need to accept /understand the obstacles that come in the way of online teaching and take a corrective measure to overcome such issues/challenges.

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RESHAPING OF HUMAN RESORUCE MANAGEMENT DURING COVID-19 PANDEMIC

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ABSTRACT

Organizations have needed to change and adjust to ensure representatives and keep organizations working. This has brought about a shift to a remote working model that numerous specialists aren't quick to leave right now. At the beginning of Covid-19, HR groups and friends pioneers might have been cheerful that the possibility estimates set up would just be impermanent. Notwithstanding, the world is resembling an endlessly better place since a few of us are beginning to come out at the opposite finish of the lockdown. There'll be various difficulties with regards to reintegrating people once again into the working environment, keeping government rules as they persistently adjust to the advancing circumstance, and giving reasonable treatment and thought to labourers who presently have issues around childcare or safeguarding. It's crucial for accept a drawn out see regarding what Human Resource Management will resemble later on and you can proceed to help and connect with your representatives..

Keywords: protect employees, remote working, covid-19, HR teams, future of work

I. Introduction

In the world, HRM is contributing a significant in a wide range of business. We are as of now mindful of the HR strategies, enrolment methods, and so forth, 2020 was full of progress, as associations all throughout the planet mixed to respond to the worldwide Covid-19 pandemic that influenced organizations huge and little across each industry. On the off chance that 2020 has shown us anything, it's that organizations that don't change will get abandoned by those that do. This applies to fostering an advanced change methodology that will stick in any case, more significantly, stretches out past innovation to handle individuals driven issues. Understanding industry shifts is urgent to staying up with the fast improvements occurring, particularly considering the pandemic. Keeping that in mind, One of the patterns were anticipated for 2020 was the

expanding noticeable quality of the better approach to work – a shift away from the customary work model toward one that is more adaptable and specialist driven, highlighted by the expanding acknowledgment of telecommuting and the blast of the gig economy. From government-commanded lockdowns to organizations moving to a regular employment from-home model, at every possible opportunity, the manner in which work finishes has changed radically.

The Covid-19 pandemic has pushed a monstrous number of managers, who were at that point confronting pressure from the wellbeing hazard itself, to telecommute. Intensifying this stressor, numerous directors are presently driving remote groups interestingly. This unexpected change has exacerbate the difficulties of working together, and driving

from a good ways, challenges we in the field of global business see well, however that have remained to a great extent unaddressed in administration practice.

The job of HR and the day by day undertakings performed by HR experts have gone through huge shifts, especially due to the outstanding development of remote work in light of the Covid pandemic. Not just have HR experts needed to direct their organizations and representatives through the progress to a more advanced and appropriated workplace, however they have additionally needed to figure out how to be useful and effective in their own jobs when telecommuting. Both have required HR experts to acquire new abilities to do jobs they weren't really ready to face.

In this paper, analysts clarify about different commitments of HR in the organizations just as different fields, advancements of HR. What's more, how they are taking on and reshaping the functioning society.

Objectives of the study

- Reshaping of Human Resource Management during Covid-19.
- The strategies used by the HR department to overcome major issues of the employees during Covid-19.

II. Review of Literature

Eliza Wong & Kin (2020) Work environment Guidelines and Support during a tough time are consistently a moan of alleviation that assists the representatives with recapturing their certainty and inspiration. It builds the degree of inspiration of the representatives and fulfils their requirements appropriately. Admittance to Information and Updates on Pandemic with Financial Benefits is the most

reasonable and powerful advantage that is given by the elements to their end-clients. Particularly, during tough situations like Pandemic, an association ought not pull off giving temporary medical care advantages to its workers, as it is perhaps the main maintenance technique accessible to them.[1]

Dhanya & Prashath (2019) Inspiration is a main impetus that empowers a worker to become receptive, effective and useful. High inspiration of the representatives could expand the potential and the fulfillment level of the workers that at last builds the qualities and efficiency of the organizations specifically. There are sure factors that increment the inspiration level of representatives proactively. These elements have been separated into two fundamental sorts which are inherent inspiration and extraneous inspiration. Both, characteristic and extraneous inspirational variables are important in giving most extreme fulfilment to the workers.[2]

Al-sharafi, Hassan & Alam (2018) The maintenance of representatives increments with their inspiration. Inspiration is then isolated into two distinct elements, which are characteristic variables and extraneous components. Both of these components of inspiration are fundamental in producing bunches of viability and improve their arrangement likewise.[3]

Kuvaas, Buch, et.all (2017) Intrinsic motivational factors are non-money related elements that could build the degree of fulfilment among the representatives, while the outward inspirational elements are financial components that increment the degree of fulfilment in the workers. A portion of the primary instances of outward inspiration are rewards, advantages, and cutthroat compensations. The inspirational variables will in general change among the organizations according to the prerequisites. Both of these techniques are proficient just as useful that at last worth the associations and upgrade the efficiency level of the representatives.[4]

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Bisht, Chaubey & Thapliyal (2016) Employees are the backbone of an element and their reality is more than fundamental for them. Maintenance of the workers is a wide subject, and bunches of organizations look genuine in this arrangement to keep a solid yield with their representatives. The maintenance of workers is related straightforwardly with the strategies made and carried out by the HR Department of an organization. It is required for an association to give each employees the necessary resources to fulfil their requirements expertly and morally.[5]

III. Organizing work

Maybe the most observable Human Resource Management reaction up until this point, specifically concerning office laborers, identifies with the new manners by which work has been coordinated during the COVID-19 emergency. Teleworking, beforehand a periphery work game plan by and large, must be taken on rapidly and generally. The quick test was to acquaint transporting quickly with individual specialists, while keeping them together as virtual groups. Dealing with a virtual group is and consistently has been a troublesome undertaking that requires cautious arranging, yet in addition a capacity to learn and change continually. How can be dealt with work on the exhibition of virtual groups?

- Continuous information about business and office advancements is required. Managers should screen group elements through bunch discussions and perform successive checks.

- Workers' psychological well-being, including on the web reflection meetings and wellness classes, may be vital.

- More adaptability is required with regards to working hours.

- Remote workers should be furnished with the appropriate corporate specialized gear to guarantee that they are utilizing instruments viable.

- "Cross breed" working: some staff stay at home, others return to the workplace, and many join the two. Dealing with this course of action includes

numerous contemplations, from requesting legitimate gear to creating fitting turn plans.

IV. Risks involved while select candidates

Because of the Covid-19 emergency, endeavours need to change their enlistment and choice methods towards weighty utilization of virtual apparatuses. The present circumstance requires extraordinary consideration in utilizing devices, for example, virtual appraisal communities and meetings, which point not exclusively to assess applicants' specialized abilities, yet in addition to see how they may find a place with the association's qualities. An expanded number of "employing botches" could lead both to bring down usefulness and, in the more drawn out term, to the disintegration of authoritative culture. Online enrolment additionally chances presenting predisposition by barring competitors who need adequate admittance to innovative hardware or are not talented in its utilization. Worker delegates can assume a significant part in guaranteeing that virtual enlistment and determination arrangements and practices are not oppressive, particularly with regards to inward competitors. At the point when an emergency hits, many endeavours accept that they can't keep away from cutbacks. This time, be that as it may, most businesses appear to have given a valiant effort to ensure occupations.

V. How to manage employees through a Pandemic

At the beginning of Covid-19, HR groups and friends pioneers might have been confident that the possibility estimates set up would just be transitory. Nonetheless, the world resembles an incomprehensibly better place since a few of us are beginning to come out at the opposite finish of the lockdown. There'll be various difficulties with regards to reintegrating people once again into the work environment, adhering to government rules as they ceaselessly adjust to the developing circumstance, and giving reasonable treatment and thought to labourers who presently have issues around childcare or safeguarding. Here are a few interesting points:

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i) Functioning remotely

Strong contention for the advantages of telecommuting, as well; truth be told, telecommuters are up to 25 percentage focuses more useful than their on location partners. According to a business point of view, this can permit organizations to make huge investment funds on their office space and furthermore gives admittance to a lot bigger ability pool outside of their topographical limits. HR groups might wind up directing more meetings on the web and setting new rules and cycles for on boarding workers remotely.

ii) Training

The crisis has revealed huge insight into the need to up-ability our representatives' persistently. In the event that you had effectively put resources into a preparation and improvement program before the pandemic, you ought to solidly clutch this drive and adjust it for virtual realizing where conceivable.

iii) Human contact is still key

There's no rejecting that working and living in segregation has negatively affected a considerable lot of us. We are, all things considered, social animals. In the event that your organization will adhere to the remote working model, it's fundamental to make a construction that energizes discussion, cooperation, and collaboration. You've worked long and difficult to construct a flourishing working environment culture and there's no motivation behind why your endeavours ought to be sidelined now.

iv) Impact on employee benefits

51 percentages of HR divisions are expecting an increment in psychological well-being issues, something in no way, shape or form astonishing. The lockdown has been testing and awful for some people. Regardless of whether it's engaging with the actual infection, or the drawn out a very long time of vulnerability and disengagement, not every person might be feeling eager to get up and go when continuing site-based work or proceeding to telecommute.

HR groups should increase backing and ensure that far off representatives get sufficient consideration and help. Some portion of the work in boosting wellbeing and prosperity will be to assist individuals with making limits among work and individual time. Urge representatives to comprehend that they are not obliged to work past their contracted hours and should take up exercises that cause them to feel better and keep them sound.

Contribution and practical implications for organizations

In the business world, emergencies are unavoidable. In any case, nobody can foresee an emergency with the size of Covid-19, which has sped up the disturbance of customary strategies for Human Resources Management and has made critical difficulties for supervisors and HRM experts, who were not completely prepared as far as data, assets, and abilities to adapt to the intricacy and the curiosity of this pandemic. Other than these difficulties, Covid-19 has made the way for promising circumstances that associations should know to have the option to appropriately coordinate their future activities in HRM. This paper is an overall writing survey that gives applicable and valuable data which can help administrators and HRM experts to comprehend the primary difficulties and openings identified with Covid-19. The experiences gave in this paper into future bearings in HRM should assist them with fostering an intercession plan adjusted to the necessities of their associations and employees.

VI. The world is evolving and HR with it

Because of the pandemic's impact on the economy, associations were immediately compelled to change and adjust to the new ordinary to endure. It is essential that HR develops and changes across each component of the HR lifecycle to meet another arrangement of authoritative necessities. Basically, HR should progressively discover approaches to help business pioneers in rebuilding during and after the pandemic; take labour force justification measures while overseeing hazards related with such mediations, and increment efficiency and worker commitment. All things considered, the Covid-19 pandemic, we need to figure out how to live with it. It's vital for act now the more HRM falls behind, the additional time it will take for associations to adjust and prevail in the post-Covid time.

VII. The future of HR in the face of COVID-19

The Covid-19 pandemic is a phenomenal emergency with extreme financial results. No one realizes how long the emergency will endure and what the 'new

typical' will resemble. Associations are researching whether the methods of working that have served them well previously, will be good for what's to come.

i) Turning into a monetary tough HR association

The beginning stage of this blog series centers around fostering a monetarily strong HR association: While associations frequently go to HR to save costs through labour force the board, during this season of emergency, there is additionally undiscovered potential to save costs inside the HR work itself.

ii) Speeding up Digital HR during-and post COVID-19

The effect of COVID-19 has set off a speed increase of Digital HR, as better approaches for working power associations to take advantage of their advances and push inventive methods of utilizing them. Investigate how your association can reinforce the advanced base of HR and release the genuine force of HR Technology.

VIII. HR measure upgrades: Where and how to focus on

In the third blog we feature the significance of putting resources into measure advancement as a key achievement factor in the excursion towards turning into a stronger HR department. Considering the probability of spending plan and asset restrictions, we acquaint a methodology with acknowledge speedy effect on the business.

i) Dexterity inside the HR association: Fast to Action

In our current reality where arrangement to work and the labor force is required like never before, customary useful arrangement is something that we accept ought to be re-examined.

ii) Foster HR capacities to beat the emergency and speed up

Organizations are relying upon HR to start to lead the pack and explore them through this emergency. HR therefore, requirements to foster new capacities to viably address these new assumptions, in any event, when a larger part of the labor force is working remotly.

iii) Turning into a monetary strong HR association

The beginning stage of this blog series centers around fostering a monetarily strong HR association: While associations frequently go to HR to save costs through labor force the board, during this season of emergency, there is likewise undiscovered potential to save costs inside the HR work itself.

iv) Speeding up Digital HR during-and post COVID-19

The effect of COVID-19 has set off a speed increase of Digital HR, as better approaches for working power associations to take advantage of their innovations and push inventive methods of utilizing them. Investigate how your association can reinforce the advanced base of HR and release the genuine force of HR Technology.

v) Deftness inside the HR association: Fast to Action

In our current reality where arrangement to work and the labor force is required like never before, customary useful arrangement is something that we accept ought to be re examined.

vi) Indispensable difficulties for HR proficient emerging from Covid-19

There are different imperative difficulties confronting HR division during this Corona virus pandemic, they are

- Employees need remote work
- Continued remote employing
- Digitization of the enrolment interaction
- Evolving position abilities
- Decreased selecting financial plans

VIII. CONCLUSION

As the quantity of representatives telecommuting develops, specialists foresee changes in the working environment, with a more significant shift from time sensitive administration to results based administration and authoritative organizations supplanting conventional chains of importance, which thusly will prompt developing interest for retraining and profession changes. The pandemic is additionally moving individual needs towards wellbeing and prosperity, building strain on the State to guarantee security

and strength in the public arena. It is to be trusted that the Covid-19 pandemic has trained undertakings to be ready for difficulties of this extent later on. To this end, building undertaking strength and setting up business congruity procedures to be enacted in the midst of emergency ought to be basic parts of endeavours' plans of action. The Boston Consulting Group's examination on the viability of hierarchical reactions to dynamic emergencies demonstrates that fruitful reactions are normally founded on planning and pre-emption. Getting ready for new emergencies ahead of time is probably going to be more interchanges and information the board. Above all, each and every employee ought to be offered a chance to share individual examples learned all through the pandemic. This ought to be guaranteed by the bosses and worker delegates.

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COVID-19 PANDEMIC ON JOB EMBEDDEDNESS OF EMPLOYEES IN IT SECTOR: A REVIEW STUDY

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ABSTRACT:

This review paper considered various factors as captured in the job embeddedness of employees in IT sector of Northern India. A review paper of the existing literature on covid-19 pandemic on job embeddedness of employees in IT sector. In this study review the covid-19 situation in IT and it is also affected various sector such as the education sector, the food industry etc. The aim ofthe study is to know about the various factors such as the organization reverie and the workplace during the pandemic situation shifting from office to home and also flexible working during the situation of COVID-19 pandemic also affecting the job embeddedness of employees in IT sector of Northern India. The study uses existing literature review to know about the job embeddedness andcovid-19 pandemic factors affected it. This review paper is based on the reviews of different studies, authors about to find out the various dimensions and the situation of covid-19 pandemic are affected on the job embeddednessof employees in IT sector. So that, basically this paper is based on several review papers.

Keywords: Covid-19, Job Embeddedness, Employees.

1. INTRODUCTION

According to the (WHO,2020a, b) World Health Organization on 11th March, 2020, declared an epidemic of the highly contagious COVID-19. The COVID-19 virus malady was first found out in China Wuhan in December 2019. As at 30th January 2020 WHO declared the coronavirus outbreak a public health emergency of global concern. Information Technology sector is a major platform in this world. An employee are the most important key assets in any organization. In recent times the coronavirus pandemic currents a massive challenge to government worldwide from various to struggling companies to the strengthening of its sector employees the COVID-19 virus has affected IT sector globally resulting through the leave the job. Therefore, the COVID-19 pandemic on a global scale has manifested a potential effect of the pandemic on the social and economic life of employees in the IT sector. Furthermore, the situation of COVID-19 on the job embeddednessin IT sector was isvariegated. According to European Commission, (2020) in the recent situation of the COVID-19 pandemic for almost all companies'

business situation are changed overnight. So that, the main aim of this review paper is to highlight the various factors areeffects of employees face during the COVID-19pandemic.

2. JOBEMBEDDEDNESS

The literal meaning of Job Embeddedness defines to the connection of an employee have to their current job, colleagues which keep an employee from quitting their jobs (Halbesleben andwheeler, 2008). In a broad sense, mainly the combined forces that keep an employee from quitting his/her job and also includes various factors like co-workers, and other fringe benefits such asjob tenure and promotional opportunities (Yao et al., 2004). Furthermore, several factors that alsoaffect an individual retention, it is too highly effectively predictor of an employee turnover behavior than the prior factors, like job design, job satisfaction, job salary and organizational commitment (Mitchell et al.,2001).

According to Mitchell the job embeddedness is mainly two dimensions. Firstly, an individual has a set of attachment to their current job and the employer is known as organization embeddedness is also known as on-the-job embeddedness. The second main dimensions of an employees have with their life out of work is known as community embeddedness is also known as off-the-job embeddedness. So that, these dimensions are further divided into sub-dimensions i.e., Link, Fit and Sacrifice.

2.1 Link

According to Mitchell and Lee, (2001) Link is the first dimension which describe the fastens that an employee has to other employee, co-workers or group members in any organization. So that the individual's formal as well as informal connections.

2.2 Fit

Another dimension is the fit which expresses the perceived conformability and ease of an employee with the various essentials such as skills, knowledge and objective of their host organization. Further more, according to Lee et al., (2004) the superior the fit of an employee to any organization, the stronger their fastens to it.

2.3 Sacrifice

Finally, the last and important dimension is the Sacrifice, according to Mitchell and Lee, (2001) it is describing the material costs, emotional and psychological of quitting an organization.

So that all these dimensions of job embeddedness are the most important role play in any organization as well as community. In other addition, these dimensions are further divided into sub-dimensions of on-the-job embeddedness and off-the-job embeddedness. The organization embeddedness such as fit organization, link organization, and sacrifice organization. Furthermore, the community embeddedness such as fit community, links community and sacrifice community. All these sub dimensions are the most important role play in any organization as well as community.

3. LITERATURE REVIEW

3.1 Factors affecting Job Embeddedness

There are few studies on the COVID-19 on job embeddedness in the literature. The main purpose of this review research is to discuss the effects of COVID-19 and epidemics on the IT Sector. The covid-19 pandemic has affected all sectors.

Table 1: Review Studies on Job Embeddedness

Author(s) (Year), Country	Research Method	Demographic Variables	Factors of Job Embeddedness
Jamal M.T., et al., (2021), India	Empirical	Gender	Job Resources, Job Demand, Strain, Wellbeing
Rosman M., and Tomine P.,(2021) Singh N., et al.	Empirical	Age, service, education Gender, age, Marital Status,	Physical symptoms, Emotional symptoms, Behavioral symptoms Satisfaction with life, Perceived
(2021), India	Empirical	Experience, type of organization, Education	vulnerability of job loss, financial well-being, emotional well-being
Simpeh F., et al., (2021), South Africa	Empirical	Gender, Organizational type, Years of experience, Educational level, Size of employees, Equipment ownership and Annual turnover	Lack of compliance, Cost of implementing Covid-19 measures, Superstition

Ali I., et al., (2021)	Empirical	Gender, age. Marital status, Tenure,	Psychological Climate, Psychological Capital, Employee Performance, Jobembeddedness
Lee H., et al., (2021)Australia	Empirical	Age, type of contract, number of years	Psychologicalsafety, emotion, organizational, supervisory andco-worker support
Agyekum K., (2021)Thailand	Empirical	-	Working rate,workforce, social distancing

4. DISCUSSION

Now a days, the social system is going through a mammoth change like never. In any organization for an individual the effect of loss of job due to covid-19 because becomes an even high server due to non-appearance of any sponsored and employment. In recent studies several relative factors reviews are suggested that IT sector employees are concerned about the changing the work status, health and environment etc. So that this can be this can be contrarily affected their satisfaction level with their employee life. Inadditional, the physical distancing, sanitizers, facemask and hand gloves became an integral part of life. So that, the present pandemic situation has given thrust to the factual wholeworld.

5. CONCLUSION

In this review paper our findings shed fluorescence the coronavirus pandemic has introduced a new normal life in the lives of the populations of the countries across the whole world. During this situation as people continue to comply with to the various safety protocols of a social distancing, the use of face masks and frequent washing of hands etc. The mainly this new normal life of human being will have changing new ways of living for survival in the world. The mainly any IT company to run a profitable growth successful organization need to conforming themselves for increased uses on technology of cutting-edge and also invest efforts in increasing the employee experience. During the covid-19 pandemic situation this may requirement lots of training and also the sensitization for employees to concede then ewerways of working in IT company. So that, a successful organization as well as community will be people centric and also invest efforts to safeguard organizationalenvironment.

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A STUDY ON PERCEPTION OF CUSTOMER'S BUYING BEHAVIOUR TOWARDS HEALTH INSURANCE PRODUCTS IN MANGALORE CITY

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INTRODUCTION

Customer satisfaction is a measurement we use to quantify the degree to which a customer is satisfied with a product, service or experience. It measures how a customer feels about a brand or a company. In the 21st century, companies are facing their toughest competition regarding the following i.e. they move from a product and sales philosophy into what can be described as a holistic market philosophy.

The various research conducted over the past few years prove that acquiring new customers is about five times costlier than maintaining the existing customer base. A satisfied and happy customer also acts as a marketing agent for the company by recommending the brand to his known contacts. Majority of the companies now believe that customers are the most important factor in the long-term of the business customers can be acquired rapidly but without retaining them the business will not sustain as acquiring new customers is a costly affair.

Customer satisfaction is the extent to which a products perceived performance matches a buyer's expectation. If the products performance falls short of expectation, the customer is dissatisfied. If it matches the expectations, the customers are satisfied. If it exceeds the expectations, the customers are highly satisfied or dissatisfied.

Customer perception:-

Perceptions are always considered relative expectations. Because expectations are dynamic, evaluation may also shift over the time from person to person or from culture to culture.

Customer satisfaction:-

Satisfaction is the customers fulfilment response. It is a judgement that a product or a service feature, or the product or service itself, provides a pleasurable level of consumption i.e. related, fulfilment. In minimal technical terms, this definition can be translated to men that satisfaction is the customers evaluation of a product or service.

Objective of the Study:-

1. To assess the awareness level and source of awareness about health insurance.

2. To identify the factors that influence customer's in the selection of health insurance.

3. particular health insurance company.

4. To find out the level of satisfaction of customer's.

❖ **Methodology:-**

❖ **Sampling Design:-**

Descriptive analysis used for the study in order to know the perception of customer's buying behaviour towards health insurance products in Mangalore city.

❖ **Sampling Frame:-**

The sampling method used for the research work is Simple Random Sampling.

Sample Size:-

Sample size determination is the act of choosing the number of observations and also the replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make the inferences about a population from a sample.

This study is mainly based on a Simple Random Sampling method and a sample size of 50 respondents of individuals including family members and friends were collected for the purpose of study and were given enough time to fill the questionnaires. More than 60 respondents were given questionnaire out of which 50 respondents filled the form. There were 17 questions and all questions were compulsory.

Primary Data Method:-

Primary data is a data collected from a source. Primary data refers to a first-hand information. In primary data method, we can collect the data by our-self using the methods such as the questionnaire method, interview method, etc. the primary data was collected through the structured questionnaire which was filled by the respondents.

What is Insurance?

Insurance is a tool by which fatalities of a small number are compensated out of funds (premium payment) collected from plenteous. Insurance is a safeguard against uncertain events that may occur in the future. Insurance is an agreement where the losses experienced by a few are extended over several who are exposed to similar risks.

a. Health insurance:-

Health insurance refers to a type of general insurance, which provides financial assistance to policyholders when they are admitted to hospitals for treatment. Additionally, some plans also cover the cost of treatment undertaken at home, prior to a hospitalization or after discharge from the same. With the rising medical inflation in India, buying health insurance has become a necessity. However, before proceeding with your purchase, consider the various types of health insurance plans available in India.

Health Insurance Industry in India:-

For an individual, either at a personal level or the family front, of which he or she is a part, health is an extremely important subject, which needs to be given priority. It is rightly said "Health is Wealth". In short, life is unpredictable. We need to be prepared for such circumstances. Leading a good and happy life depends upon the analysis of our personal health. Accidents do happen and we need to prepare for such situations. In times of high health cost, we need to get covered for health risks. For the rich as well as poor, male as well as female and young as well as old, being diagnosed with an illness and having the needs to be hospitalized can be tough ordeal. Heart problems, diabetes, cancer, stroke, etc. the list of lifestyle diseases just seem to be common theses days. Thankfully there ae more specialist hospitals and specialist doctors but all that comes at a cost.

Medical facilities in Mangalore city are of world-class standards and attract medical tourists. They provide preventive health care, emergency services, and treatment of various ailments. Quality medical care is easily accessible, majority of the Mangalore citizens faces the effect of medical inflation. Healthcare, especially in private hospitals, is expensive. With the support of health insurance in Mangalore, this burden is reduced. Care health insurance helps us to get quality healthcare without worries at any cashless network hospital in Mangalore empanelled under its network. People in Mangalore live in a fast-paced environment and thus become prone to various lifestyle disorders such as diabetes, hypertension, obesity, etc. moreover, air pollution owing to industrial activities has led to respiratory illnesses such as asthma. Diseases can arise not just because of lifestyle factors but also due to hereditary reasons. All these points hint at the uncertainty of life events, such as medical emergency. Thus, it is wise to invest in health insurance in Mangalore that will serve as a financial cushion for a family's hard-earned savings. Furthermore, with a health policy, one can avail of benefits such as lifetime renewability, annual health check-ups, no claim bonus, ambulance cover, etc.

Nowadays, healthcare expenditure is consistently increasing in this situation. More money are required to paid hospital bill or expenses, most of the people use out of pocket for the health care expenses or in some cases also sell his or her personal assets. Low income households are more vulnerable to risk and economic shocks. One

way for the poor to protect their health is through health insurance. There are various health insurance schemes such as social health insurance, private health insurance, etc. The basic principle is that people contribute a specified amount to an insurance fund which is used to finance health services. Health insurance policies insure against several illness and guarantee to stay financially secure should ever require treatment. Health is a major concern on everybody's mind these days. In health insurance, there are pre-payments and pooling. So, people pay a small amount when they are healthy. This contribution is shared by many people and is used to meet the health care cost of enrolled members when they need it. Health insurance operates in circumstances where people are risk averse (i.e.) they prefer the certainty of insurance to the uncertainty of illness. They are then willing to pay a premium to cover the costs of a medical event. Health insurance is basically a tool to minimize uncertainty.

Health Insurance is a part of general insurance which contributes about 29% of premium amongst all other sectors of general insurance. But problems in this sector are many which is the driving force behind this study. This study will help the insurance companies to understand their performance and the quantum of losses that this sector is making over the years.

❖ **The Need for Health Insurance Industry in India:-**

1. Lifestyles have changed. Indian's today suffer from high levels of stress. Long hours at work, little exercise, disregard for a healthy balanced diet and a consequent dependence on junk food have weakenedour immune systems and put us at an increased risk of contracting illness.

2. Rare non-communicable diseases are now common. Obesity, high blood pressure, strokes and heart attacks, which were earlier considered rare, now affect and increasing number of urban Indian's.

3. Medical care is unbelievably expensive. Medical breakthroughs have resulted in curs for dreaded diseases. These cures however are available only to a select few. This is because of high operating and treatment expenses.

4. Indirect costs add to the financial burden. Indirect sources of expenses like travel, boarding and lodging, and even temporary loss of income account for as much as 35% of the overall cost of treatment. These facts are overlooked when planning for medical expenses.

5. Incomplete financial planning. Most of us have insured our home, vehicle, child's education and even our retirement years. Ironically, however, we have not insured our health. We ignore the fact that illness strike without warning and seriously impact our finances and eat into our savings in the absence of a good health insurance or medical insurance plan.

Data analysis And Interpretation:-

Data analysis is an analysis of inspecting, cleansing, transforming and modeling data with the goals of discovering the information and also informing conclusions and supporting the decision-making. Data analysis is the process of evaluating and using the logical techniques to describe and illustrate the data. Data analysis help to ensure data integrity in order to find out and appropriate analysis of research findings.

Data interpretation is the process of reviewing data through some predefined processes which will help to assign some meaning to the data and arrive at a relevant conclusion. It involves taking the result of data analysis. Data interpretation also refers to the implementation of processes through which data is reviewed for the purpose of arriving at an informed conclusion. The interpretation of data assigns a meaning to the information analyzed and determines its signification and implications.

❖ **Analysis of Demographic factors (personal questions) of Customer's perception towards health insurance products:-**

Table-4.1:- Age wise response
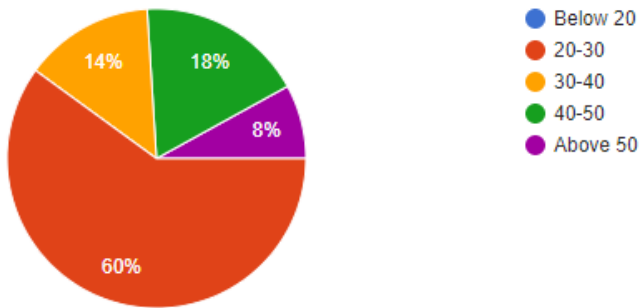
Age		
Response	Number	Percentage
Below 20	0	0%
20-30	30	60%
30-40	7	14%
40-50	9	18%
Above 50	4	8%
Total	50	100%

Source: Primary data

Figure-4.1:- Age

Legend:
- Below 20
- 20-30
- 30-40
- 40-50
- Above 50

Source: Primary data

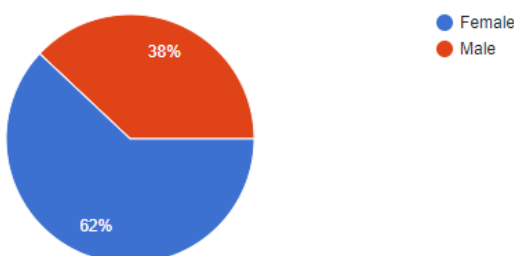❖ **Data Analysis and Interpretation:-**

The above study indicates that 60% of the respondents are at the age of 20-30 years, 18% of the respondents are at the age of 40-50 years, 14% of the respondents are the age of 30-40 years, 8% of the respondents are at the age of above 50 years. 0% of the respondents are at the age of below 20 years. Therefore, it is observed that majority of the respondents fall under the age group of 20-30 years.

Table-4.2:- Gender wise response

Gender		
Response	Number	Percentage
Female	31	62%
Male	19	38%
Total	50	100%

Source: Primary data

Figure-4.2:- Gender

Legend:
- Female
- Male

Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that 62% of the respondents are female whereas 38% of the respondents are male. Therefore, it is observed that majority of the respondents are female. Female respondents are more interested to buy health insurance products because female knows to save more for future as it is truly said future is uncertain.

Table-4.3:- Qualification wise response

Qualification		
Response	Number	Percentage
Below graduate	1	2%
Graduate	19	38%
Post graduate	27	54%
Professional	2	4%
Others	1	2%
Total	50	100%

Source: Primary data

Figure-4.3:- Qualification

Legend:
- Below graduate
- Graduate
- Post graduate
- Professional
- Others

Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that 54% of the respondents are post graduate, 38% of the respondents are graduate, 4% of the respondents are professional's, 2% of the respondents are below graduate and 2% of the respondents are others. Others include private workers and business persons. Therefore, it is observed that majority of the respondents are post graduate.

Table-4.4:- Income wise response

Income		
Response	Number	Percentage
Below 1.50 lakhs	26	54.20%
1.50-2.50 lakhs	15	31.30%
2.50-5 lakhs	6	12.50%
5-10 lakhs	2	2%
Above 10 lakhs	1	0%
Total	50	100%

Source: Primary data

Figure-4.4:- Income

Source: Primary data

❖ **Data Analysis and Interpretation:-**

In the above study indicates that 54.20% of the respondents having the income of below 1.50 lakhs, 31.30% of the respondents having the income of 1.50-2.50 lakhs, 12.50% of the respondents having the income of 2.50-5 lakhs, 2% of the respondents having the income of 5-10 lakhs, 0% of the respondents having the income of above 10 lakhs. Therefore, it is observed that majority of the respondents fall under the income group of below 1.50 lakhs.

Table-4.5:- Marital status wise response

Marital status		
Response	Number	Percentage
Unmarried	34	68%
Married	16	32%
Total	50	100%

Source: Primary data

Figure-4.5:- Marital status
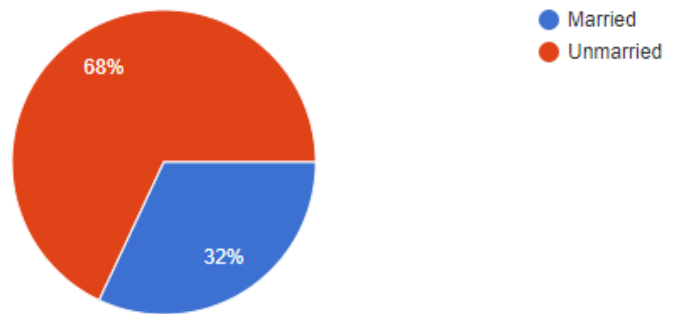
Source: Primary data

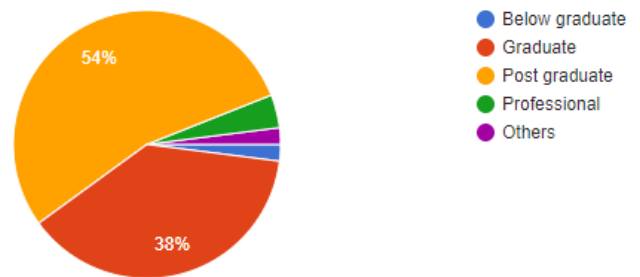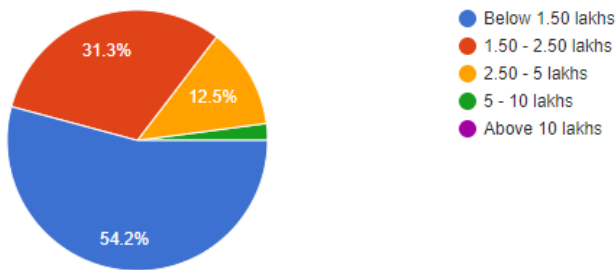❖ **Data Analysis and Interpretation:-**

The above study indicates that 68% of the respondents are unmarried and 32% of the respondents are married. Therefore, it is observed that majority of the respondents are unmarried.

Table-4.6:- Since, how many yearsrespondents holding Health Insurance policy?

Income		
Response	Number	Percentage
Below 5 years	27	55.10%
5-10 years	13	26.50%
10-15 years	6	8.20%
Above 15 years	4	10.20%
Total	50	100%

Source: Primary data

Figure-4.6:- Since, how many years respondents holding Health Insurance policy?
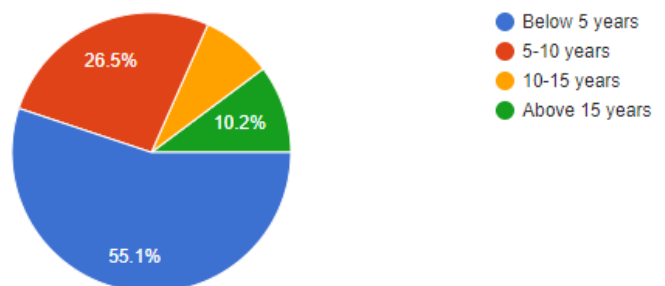
Source: Primary data

❖ Data Analysis and Interpretation:-

The above study indicates that 55.10% of the respondents are holding health insurance policy for below 5 years, 26.50% of the respondents are holding health insurance policy for 5-10 years, 10.20% of the respondents are holding health insurance products for above 15 years, 8.20% of the respondents are holding health insurance policy for 10-15 years. Therefore, it is observed that majority of the respondents having the experience of below 5 years.

❖ Questionnaire:-

Table-4.7

1. Does health insurance policy help in taking care of rising cost of health care?		
Response	Number	Percentage
Yes	46	92%
No	4	8%
Total	50	100%

Source: Primary data

Figure-4.7

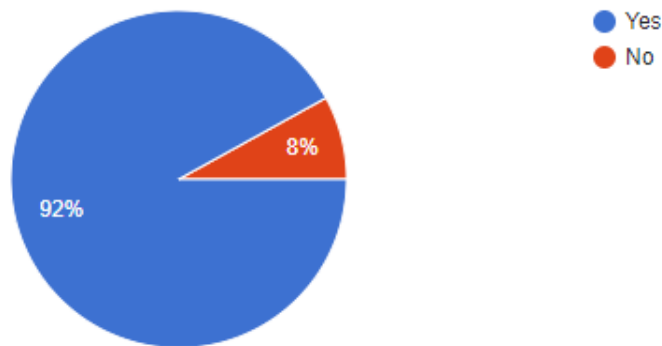*Source: Primary data*

❖ Data Analysis and Interpretation:-

The above study indicates that majority of the respondents with 92% says yes and think that the health insurance policy help in taking care of rising cost of health care and we can also found that very less respondents with 8% of the respondents says no and think that health insurance policy does not help in taking care of rising cost of health care.

Table-4.8

2. Does Covid-19 pandemic has made you more concerned about the safety and health of yourself and your family?

Response	Number	Percentage
Yes	47	94%
No	3	6%
Total	50	100%

Source: Primary data

Figure-4.8
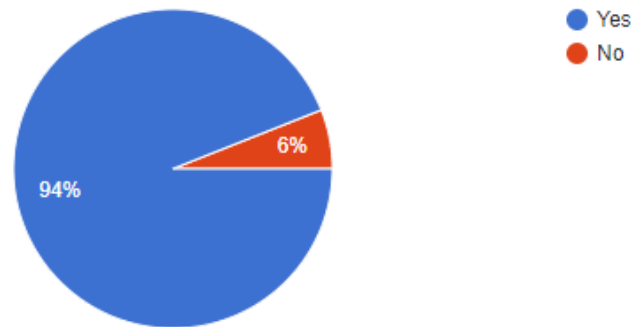
Source: Primary data

❖ Data Analysis and Interpretation:-

The above study indicates that majority of the respondents with 94% says yes and think that the Covid-19 pandemic has made them more concerned about the safety and health of them and their family and we can also found that very less respondents with 6% of the respondents says no and think thatCovid-19 pandemic does not made them more concerned about the safety and health of them and their family.

Table-4.9

3. Have you observed that hospitals tend to charge higher when the patient is covered under health insurance?

Response	Number	Percentage
Yes	32	64%
No	18	36%
Total	50	100%

Source: Primary data

Figure-4.9
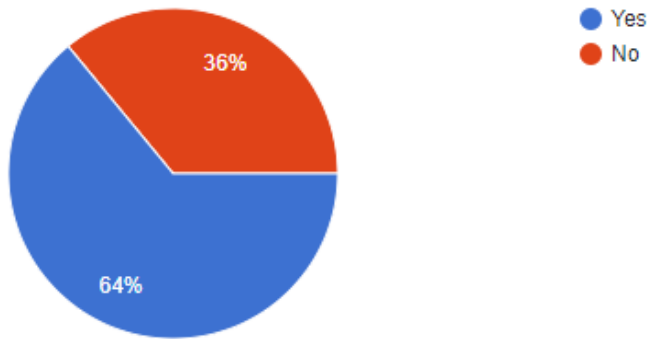
Source: Primary data

❖   **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 64% says yes and think that the hospitals tend to charge higher when the patient is covered under health insurance and we can also found that very less respondents with 36% of the respondents says no and think that the hospitals do not charge higher when the patient is covered under health insurance.

Table-4.10

4. Do you think trust in the service provided is essential while selecting a health insurance policy?

Response	Number	Percentage
Yes	41	82%
No	9	18%
Total	50	100%

Source: Primary data

Figure -4.10
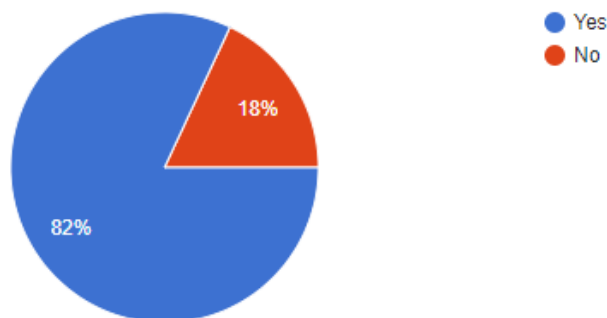
Source: Primary data

❖   **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 82% says yes and think that the trust in the service provided is essential while selecting a health insurance policy and we can also found that very less respondents with 18% of the respondents says no and think that the trust in the service provided is not essential while selecting a health insurance policy.

Table-4.11

5. Does brand name is an important factor for you to select health insurance provider?

Response	Number	Percentage
Yes	34	68%
No	16	32%
Total	50	100%

Source: Primary data

Figure-4.11
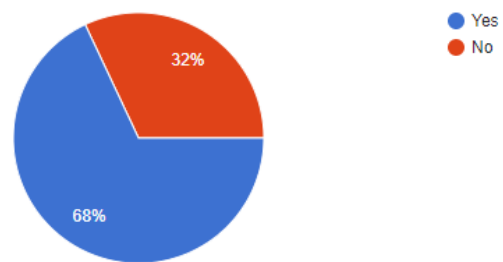
Source: Primary data

❖   **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 68% says yes and think that brand name is an important factor for them to select health insurance provider and we can also found that very less respondents with 32% of the respondents says no and think that brand name is not an important factor for them to select health insurance provider.

Table-4.12

1. Does Government schemes for health insurance motivates you to purchase a health insurance policy?

Response	Number	Percentage
Yes	45	90%
No	5	10%
Total	50	100%

Source: Primary data

Figure -4.12
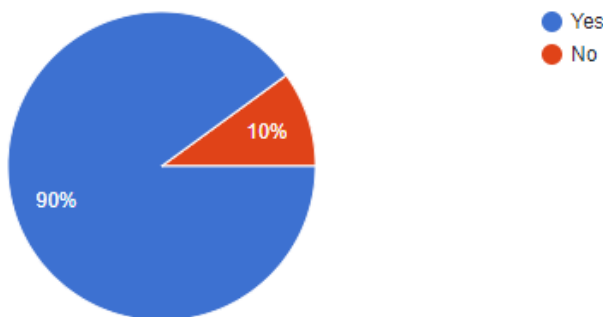
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 90% says yes and think that Government schemes for health insurance motivates them to purchase a health insurance policy and we can also found that very less respondents with 10% of the respondents says no and think that Government schemes for health insurance does not motivate them to purchase a health insurance policy.

Table-4.13

2. You are able to smoothly pay your current health insurance policy with your current annual income.

Response	Number	Percentage
Highly Agree	16	32%
Agree	20	40%
Neutral	12	24%
Disagree	2	4%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.13
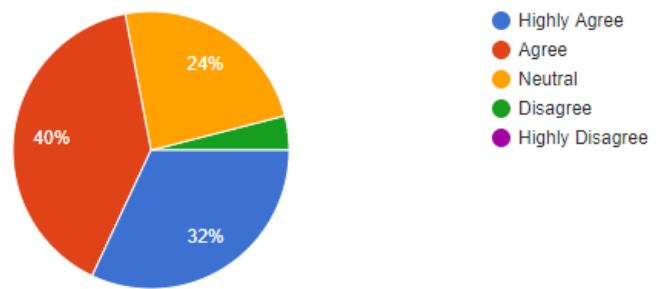
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 40% are agree and think that they are smoothly able to pay current health insurance with their current annual income and we can also found that very less respondents with 0% of the respondents are highly disagree and think that they are smoothly not able to pay current health insurance with their current annual income.

Table-4.14

3. The health insurance premium charged by the company is reasonable.

Response	Number	Percentage
Highly Agree	6	12%
Agree	28	56%
Neutral	16	32%
Disagree	0	0%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.14
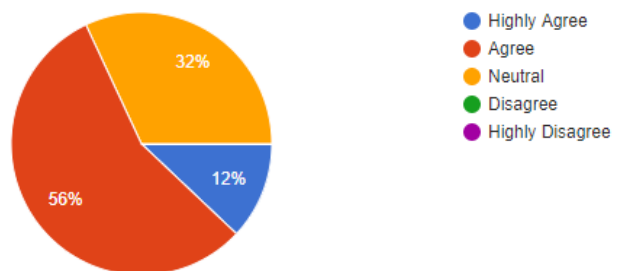
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 56% are agree and think that health insurance premium charged by the company is reasonable and we can also found that very less respondents with 0% of the respondents are highly disagree and think that health insurance premium charged by the company is not reasonable.

Table-4.15

4. The promotional offers influence your decision to purchase health insurance policy.

Response	Number	Percentage
Highly Agree	13	26%
Agree	14	28%
Neutral	18	36%
Disagree	5	10%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.15
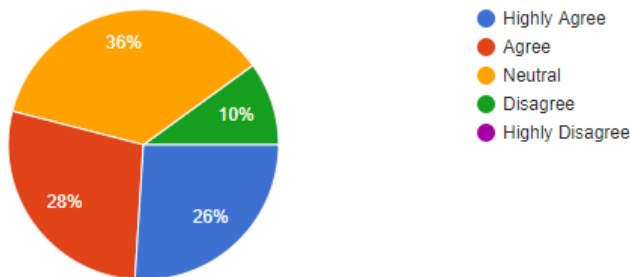
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 36% are neutral and think that promotional offers influence their decision to purchase health insurance policy and we can also found that very less respondents with 0% of the respondents are highly disagree and think that promotional offers does not influence their decision to purchase health insurance policy.

Table-4.16

5. The health insurance companies give me sufficient information regarding policy renewal.

Response	Number	Percentage
Highly Agree	13	26%
Agree	23	46%
Neutral	13	26%
Disagree	1	2%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.16
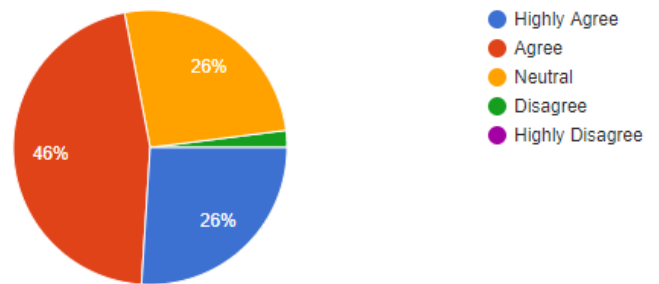
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 46% are agree and think that health insurance companies give sufficient information regarding policy renewal and we can also found that very less respondents with 0% of the respondents are highly disagree and think that health insurance companies give sufficient information regarding policy renewal.

Table-4.17

6. The agents do not promote health insurance policy.

Response	Number	Percentage
Highly Agree	12	24%
Agree	13	26%
Neutral	12	24%
Disagree	12	24%
Highly Disagree	1	2%
Total	50	100%

Source: Primary data

Figure-4.17
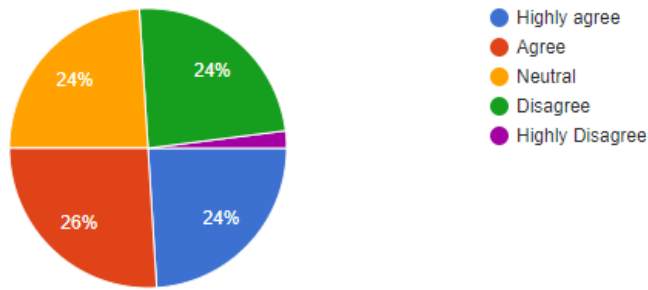
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 26% are agree and think that agent do not promote health insurance policy and we can also found that very less respondents with 2% of the respondents are highly disagree and think that agent promote health insurance policy.

Table-4.18

1. Having health insurance policy is a worthy decision for a family.

Response	Number	Percentage
Highly Agree	23	46%
Agree	16	32%
Neutral	10	20%
Disagree	1	2%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.18

Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 46% are highly agree and think that having health insurance policy is a worthy decision for a family and we can also found that very less respondents with 0% of the respondents are highly disagree and think that having health insurance policy is not a worthy decision for a family.

Table-4.19

2. The entry of many player's in private sector has improved the marketing and promotional of the health insurance products.

Response	Number	Percentage
Highly Agree	13	26.50%
Agree	24	49%
Neutral	11	22.40%
Disagree	2	2.10%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.19

Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 49% are agree and think that the entry of many player's in private sector has improved the marketing and promotional of the health insurance products and we can also found that very less respondents with 0% of the respondents are highly disagree and think that entry of many player's in private sector has not improved the marketing and promotional of the health insurance products.

Table-4.20

3. I renew the health insurance policy regularly.

Response	Number	Percentage
Highly Agree	12	24.50%
Agree	18	36.70%
Neutral	13	26.50%
Disagree	4	7.00%
Highly Disagree	3	5.30%
Total	50	100%

Source: Primary data

Figure-4.20
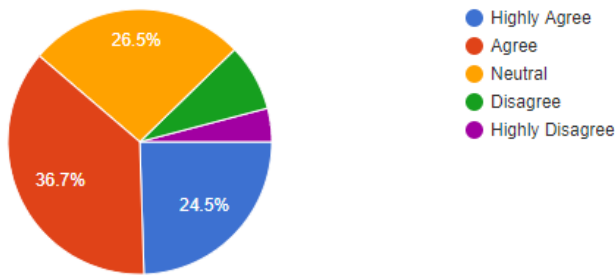
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 36.70% are agree and they renew their health insurance policy regularly and we can also found that very less respondents with 5.30% of the respondents are highly disagree and they do not renew their health insurance policy regularly.

Table-4.21

1. The health insurance coverage can improve preventive health care.

Response	Number	Percentage
Highly Agree	12	24.50%
Agree	23	46.90%
Neutral	13	26.50%
Disagree	2	2.10%
Highly Disagree	0	0%
Total	50	100%

Source: Primary data

Figure-4.21
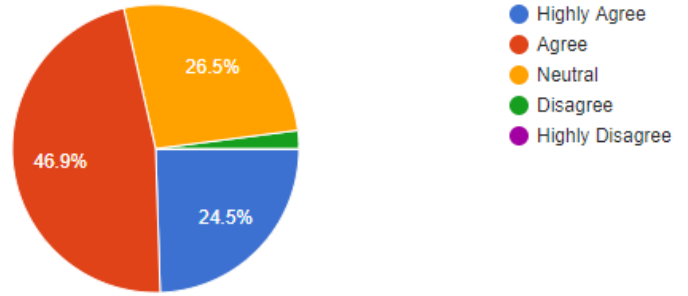
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 46.90% are agree and they think that health insurance coverage can improve preventive health care and we can also found that very less respondents with 0% of the respondents are highly disagree and they think that health insurance coverage cannot improve preventive health care.
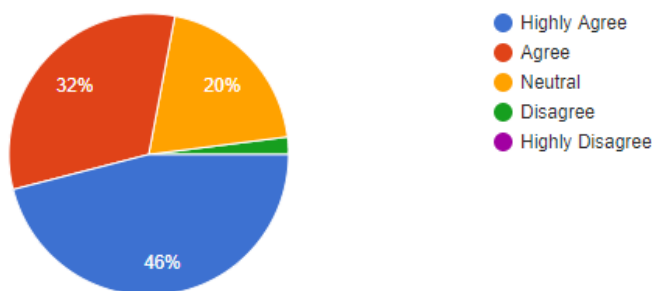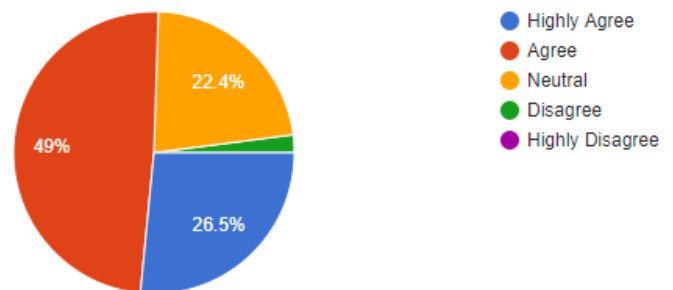
2. Which companies health insurance policy is best? (Rank-1 highest, Rank-5 lowest).

Figure-4.22
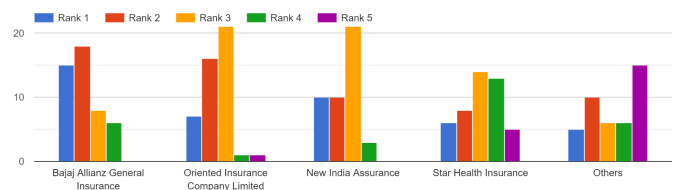
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents have indicated that Bajaj Alliance General Insurance is best.

Table-4.23

3. Which type of message from a health insurance advertisement will influence you more?

Response	Number	Percentage
Family security	28	56%
Fear of big	5	10%
Risk cover	12	24%
Well-being and Health	5	10%
Others	0	0%
Total	50	100%

Source: Primary data

Figure-4.23
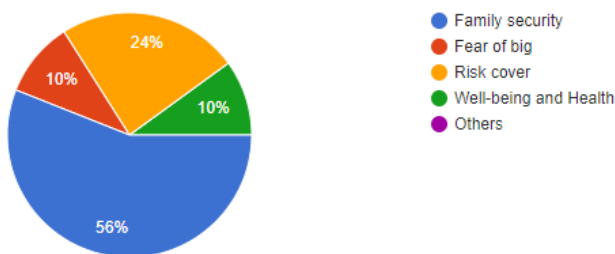
Source: Primary data

❖ **Data Analysis and Interpretation:-**

The above study indicates that majority of the respondents with 56% are influenced more with family security and we can also found that very less respondents with 0% of the respondents are influenced with well-being and health.

❖ **Correlation Matrix:-**

A Correlation Matrix is a table in which it shows the sets of variables. Correlation Matrix helps us to find the highest correlation matrix. The diagonal of the correlation matrix is 1.

Table-4.24

|	V01	V02	V03	V04	V05	V06	V07	V08	V09
V01	1								
V02	0.4472	1							
V03	0.4888	0.2623	1						
V04	0.518	0.3107	0.1716	1					
V05	0.5726	0.5378	0.3041	0.4468	1				
V06	0.085	0.1597	0.1072	0.138	0.1031	1			
V07	0.1575	0.0423	0.0554	0.0691	-0.023	0.3856	1		
V08	0.2266	0.2797	0.2154	0.4833	0.341	0.2331	0.0771	1	
V09	0.1242	0.1	0.1939	-0.004	0.1001	0.2426	0.4576	0.0041	1

Source: Primary data

❖ **Data Analysis and Interpretation:-**

In the above study, we can understand that yellow shades indicates positively correlated matrix, light orange shades indicates moderately correlated matrix and red shades indicates negatively correlated matrix.

V01(Health Insurance Policy), V02(Health Insurance Premium), V03(Promotional Offers), V04(Health Insurance Companies), V05(Agents), V06(Worthy Decision for a Family), V07(Player's in private sector), V08(Policy Renewal) and V09(Preventive Health Care).

From the above study we can found that that V02(Health Insurance Policy) are positively correlated with V03(Promotional Offers) and V02(Health Insurance Policy) are positively correlated with V04(Health Insurance Companies). We can also found that V03(Promotional Offers) are positively correlated with V05(Agents) and V01(Health Insurance Policy) are positively correlated with V08(Policy Renewal). We can also found that V02(Health Insurance Premium) are positively correlated with V08(Policy Renewal) and V05(Agents) are positively correlated with V08(Policy Renewal). We can also found that V06(Worthy Decision for a Family) are positively correlated with V07(Player's in private sector).

From the above study we can found that the V01(Health Insurance Policy) are moderately correlated with V07(Player's in private sector) and V02(Health Insurance Premium) are moderately correlated with V06(Worthy Decision for a Family). We can also found that V03(Promotional Offer) are moderately correlated

with V04(Health Insurance Companies) and V04(Health Insurance Companies) are moderately correlated with V06(Worthy Decision for a Family).

From the above study we can found that V02(Health Insurance Premium) are negatively correlated with V07(Player's in private sector) and V04(Health Insurance Companies are negatively correlated with V09(Preventive Health Care) and V05(Agents) are negatively correlated with V07(Player's in private sector) and V08(Policy Renewal) are negatively correlated with V09(Preventive Health Care). Through Correlation Matrix we found the highest correlation matrix, moderately correlation matrix and negatively correlation matrix.

❖ **Descriptive Statistics:-**

Descriptive statistics aims to summarize a sample. The main purpose of the descriptive statistics is to understand the mean, average, sample variance, count, etc. descriptive statistics are used to describe the basic feature of data in a study. Descriptive statistics provides a simple summaries about the sample and the measure of central tendency and the measure of variability of dispersion.

Table-4.25

	Experience	V01	V02	V03	V04	V05	V06	V07	V08	V09
Mean	1.76	2	2.2	2.3	2.04	2.54	1.78	2	2.28	2.06
Standard Error	0.170377732	0.121218	0.090351	0.137766	0.110509	0.164652	0.118804	0.106904	0.148571	0.108459
Median	1	2	2	2	2	2.5	2	2	2	2
Mode	1	2	2	3	2	2	1	2	2	2
Standard Deviation	1.204752494	0.857143	0.638877	0.974156	0.781417	1.164264	0.840068	0.755929	1.050559	0.766918
Sample Variance	1.451428571	0.734694	0.408163	0.94898	0.610612	1.35551	0.705714	0.571429	1.103673	0.588163
Range	4	3	2	3	3	4	3	3	4	3
Minimum	1	1	1	1	1	1	1	1	1	1
Maximum	5	4	3	4	4	5	4	4	5	4
Sum	88	100	110	115	102	127	89	100	114	103
Count	50	50	50	50	50	50	50	50	50	50
Confidence Level(95.0%)	0.34238687	0.243597	0.181567	0.276852	0.222076	0.33088	0.238745	0.214833	0.298565	0.217956

Source: Primary data

❖ **Data Analysis and Interpretation:-**

V01(Health Insurance Policy), V02(Health Insurance Premium), V03(Promotional Offers), V04(Health Insurance Companies), V05(Agents), V06(Worthy Decision for a Family), V07(Player's in private sector), V08(Policy Renewal) and V09(Preventive Health Care).

❖ **Mean:-**

From the above study we can found that the highest mean was in case of V05 (2.54) followed by V08 (2.28). The lowest mean was in case of V01(2) followed by V07(2).

❖ **Sample Variance:-**

From the above study we can understand that the highest sample variance was in case of V05 (1.35551) followed by V08 (1.103673). the lowest mean was in case of V02 (0.408163) followed by V07 (0.571429).

❖ **Implications of the study:-**

From the above study we can found that the highest mean is V05 (2.54) and the lowest mean was in case of V01(2). We can also found that the highest sample variance was in case of V05 (1.35551 and the lowest mean was in case of V02 (0.408163).

❖ **Findings:-**

• The research findings found that most of the questionnaire respondents are graduated. All the respondents are interested to buy health insurance products. The major reason for choosing a health insurance product because respondents think that health insurance helps to secure the future in case of emergency.

• Majority of the respondents having the experience of buying of health insurance products of below 5 years.

• The annual income of the respondents is below 1.50 lakhs. Research shows that 68% of the respondents are married and 32% of the respondents are married. All the respondents having health insurance products.

❖ **Suggestions:-**

• The health insurance companies in the study area should concentrate towards young and middle aged customers and to establish a good relationship by providing an alternative service. Since, the young respondents relationship with the health insurance can be longer due to their age factor, simultaneously the middle aged respondents create a good relationship

properly whenever they approach to avail their services in the selected health insurance companies.

- The health insurance companies should give the proper intimation of the renewal of policies and giving proper response of company officials and agents for avoid making false promises and misleading information to the customers in terms of premium amounts, due date and bonus facility.

- It is highly recommended that the company has to devise plans to increase the number of policies in case of personal accident and personal accident schemes in order to spread the schemes to the target customers at the expected rate.

- The target achievement rate was not significant in case of medical and personal accident schemes and there was poor rate in case of personal accident and workmen's compensation schemes. Therefore, the company has to concentrate on this in the future years.

❖ **Conclusion:-**

- The objective for which the present project work was taken up was to assess the perception of customer's buying behaviour towards health insurance products and also to identify the factors that influence customers in the selection of health insurance products.

- The research also helped to find out the level of satisfaction of customers. The majority of the respondents are satisfied with the health insurance products.

- The study helped in understanding the consumer buying decision process, thereby answering the questions 'why' and 'how' a customer buys insurance policies. The factors identified to influence the perceptions of customers buying health insurance products.

❖ **Websites:-**

- **https://www.researchgate.net/publication/ 334883607_A_STUDY_ON_ CUSTOMERS_PERCEPTION_AND_ SATISFACTION_TOWARDS_ HEALTH_INSURANCE**

- **https://aip.scitation.org/doi/10.1063/5.0014719**

❖ **Annexure:-**

❖ **Format of Questionnaire Designed:-**

❖ **Questionnaire:-**

➢ **Title**:-A study on perception of customer's buying behaviour towards health insurance products in Mangalore city".

➢ **Personal Data:-**

➢ **Respondents name:-**

➢ **Age:-**

- Below-20
- 20-30
- 30-40
- 40-50
- Above-50

➢ **Gender:-**

- Female
- Male

➢ **Qualification:-**

- Below graduate
- Graduate
- Post Graduate
- Professional
- Others

➢ **Income:-**

- Below 1.50 lakhs
- 1.50-2.50 lakhs
- 2.50-5 lakhs
- 5-10 lakhs
- Above 10 lakhs

➢ **Marital status:-**

- Married
- Unmarried

➢ **Since, how many years you are holding Health Insurance policy?**

- Below 5 years
- 5-10 years
- 10-15 years
- Above 15 years

➢ **Study factor:-**

1. Does health insurance policy help in taking care of rising cost of health care?

- Yes
- No

2. Does Covid-19 pandemic has made you more concerned about the safety and health of yourself and your family?

- Yes
- No

3. Have you observed that hospitals tend to charge higher when the patient is covered under health insurance?

- Yes
- No

4. Do you think trust in the service provided is essential while selecting a health insurance policy?

- Yes
- No

5. Does brand name is an important factor for you to select health insurance provider?

- Yes
- No

6. Does Government schemes for health insurance motivates you to purchase a health insurance policy?

- Yes
- No

7. You are able to smoothly pay your current health insurance policy with your current annual income.

- Highly Agree

- Agree
- Neutral
- Disagree
- Highly Disagree

8. The Health Insurance premium charged by the company is reasonable.

- Highly Agree
- Agree
- Neutral
- Disagree
- Highly Disagree

9. The Promotional offers influence your decision to purchase health insurance policy.

- Highly Agree
- Agree
- Neutral
- Disagree
- Highly Disagree

10. The Health Insurance companies give me sufficient information regarding policy renewal.

- Highly Agree
- Agree
- Neutral
- Disagree
- Highly Disagree

11. The agents do not promote health insurance policy.

- Highly Agree
- Agree
- Neutral
- Disagree
- Highly Disagree

12. Having health insurance policy is a worthy decision for a family.

- Highly Agree

- Agree
- Neutral
- Disagree
- Highly Disagree

13. **The entry of many player's in private sector has improved the marketing and promotional of the health insurance products.**
   - Highly Agree
   - Agree
   - Neutral
   - Disagree
   - Highly Disagree

14. **I renew the health insurance policy regularly**.
   - Highly Agree
   - Agree
   - Neutral
   - Disagree
   - Highly Disagree

15. **The health insurance coverage can improve preventive health care.**
   - Highly Agree
   - Agree
   - Neutral

- Disagree
- Highly Disagree

Rank/Options	Rank-1	Rank-2	Rank-3	Rank-4	Rank-5
Bajaj Allianz General Insurance					
Oriented Insurance Company Limited					
New India Assurance					
Star Health Insurance					
Others					

16. **Which companies health insurance policy is best? (Rank-1 highest, Rank-5 lowest).**

17. **Which type of message from a health insurance advertisement will influence you more?**
- Family security
- Fear of big
- Risk cover
- Well-being and Health
- Others

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AN ANALYSIS ON IMPACT OF COVID-19 ON LEGAL EDUCATION WITH SPECIAL REFERENCE TO TEACHING AND LEARNING

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Even though it is difficult to believe that, pandemic can change entire scenario within few days of its outbreak, the world has witnessed severity of the spread of COVID-19 which has had devastating effect on every sector in the whole world. Education sector is not an exception to it. Education is the fundamental right not to be denied but covid-19 has put constraints on both teaching and learning. Legal education also faced lot many issues and challenges especially in the field of teaching and learning. Teaching and learning during these days, dependent upon the availability of technical tools and gadgets with proficiency in utilizing them rather than the knowledge or enthusiasm in study. Along with legal knowledge through theoretical classes, practical exposure to the students is required for budding Lawyers. In this paper, we can look on analysis of impact of COVID-19 on teaching and learning.

Keywords: - COVID-19, Legal education, Teaching and learning, technical tools, practical exposure.

Introduction

As we know, novel coronavirus (*COVID-19*) was declared as a global pandemic by the World Health Organization on 11th March, 2020 and its impact is very severe and shaken even the developed economies of the world. It has changed the orderly life of the people and restrictions are put on the free movement in the form of lockdown which was inevitable to control the pandemic. Functioning of almost all trade and businesses, manufacturing units, professions, transportation, services and many more sectors, effected by this pandemic. Education sector was made to open the new horizon for its continuation during these tough times and it was the online mode where assistance of technology became fundamental to run the show.

Pandemic and its impact

The sudden emergence of COVID-19 forced to go for considerable changes in many aspects of life, use of information technology staffers, transition to the virtual instruction mode and so on. On the one hand people at home are struggling to battle against this pandemic, like loss of job, financial crisis, fear of spread of vires etc., and on the other hand worried about the future of their children which is jeopardised as a result of the outbreak of covid-19 worldwide.

There are two arguments which we can find during this pandemic. One is, education of children is under trouble, exams are not yet done, course is not completed, campus selections are not taking place etc. but other argument is, lets first fight against this pandemic, surviving from this situation should be given with the priority than that of future of our children.

Impact of pandemic on education sector

Apart from the substantial livelihood destruction, the ongoingcrisis resulted from COVID-19 has had an unparalleled effect on the education sector around the world. Due to the global health emergency the movement of people have been confined, which has resulted in the closing of teaching centres and there was a shift from physical interactive education to online monologues education everywhere. Impact and result of teaching may not be so great in online mode. According to UNICEF reporting, it was estimated that the pandemic has hampered progression against international education targets by adversely affecting around 1.6 billion learners across 190 countries and continents in the whole world. The first to be impacted by these closures was the system of education

and learning, particularly teaching learning and evaluation methodologies.

Challenges faced by Law Schools, law teachers in imparting knowledge and skills to the students

By the numerous surveys conducted and studies made, it has come to the lime light that, home environment settings, a lack of basic facilities, external distraction and family interruption during teaching and conducting assessments were major issues reported. These will have lot of impact on teaching and learning process. Both home environment setup of teachers and students count a lot. Institutional support barriers such as the budget for purchasing advanced technologies, lack of training, lack of technical support and lack of clarity and direction were also reported.

Even though the subject law formulates a part of social sciences, teaching and learning process of law requires lot of analysis, interpretations and research which is very difficult in a digital platform. There are practical training aspects which demands field visits and live observations from the part of students to complete their law graduation. Because of pandemic situation, those ways of practical exposures for law students are almost closed. One more challenge the law students are facing is internships they used to take up as a part of the course and for practical experience for future career has become virtual now. Students used to visit Courts and law chambers regularly and they also often visit, Banks and Financial Institutions, police stations, chambers of high profiled law officers, judiciary, Parliament houses etc became impossible for these batches now.

This has become a challenge for the teachers now, as to how to give them this practical exposure which are required for the students to seek knowledge on different segments of legal study.

Providing practical exposure to the students is must for the budding lawyers and it is foundation,what they are getting in the law colleges for their future career. Even though the classes are conducted through online mode, it may give only theoretical interpretations and cannot be equated with practical knowledge. Conducting moot courts through online can be done but conducting mock trial may not be effective. Court manners, appearing for the client, and other attitude required for the lawyers in future, requires lot of learning by practice, which became

tough task during pandemic. Court proceedings of different stages must be observed by the students, as how Advocates are arguing the case, and how the Judges are delivering judgements and so on. Students have Court Diaries and Chamber Diaries to write. This can be made possible only by visiting the Courts and by watching the proceedings over there. The law students were also denied from learning through advocate chambers. How to interact with the clients, seeking adjournments must be learnt as a part of practical training, but hardly possible during pandemic.

Legal aid is also one of the prominent elements which creates legal awareness to the general public, in which the final year batch of law graduation, used to participate and get sensitised towards societal issues, by involving in the legal aid activities. But as a result of outbreak of COVID-19, they are drastically affected. As the social distance is the main requirement of this pandemic, legal awareness cannot be created effectively by reaching the public who are in need of it.

Interpretation made by the teachers and the analysis made by the students on legal discipline may not be so effective through virtual platform in comparison with the offline mode. Effect of COVID-19 is not only teaching of practical papers, impact can be seen with regard to teaching even other subjects of law as well. Law subjects are taught by doing certain simulation exercises, for example, Law of contract is not only taught in theoretical manner but also engaging students by dividing them in to groups to enter in to a contract. Even subjects, like ADR, Professional Ethics, also taught in the same manner. How arbitration takes place, the procedures of conducting mediation and negotiations, presentation of arguments etc, can be demonstrated in the class with the involvement of students. This cannot be done through online mode. Hence, pandemic has not only affected on clinical courses, even on theory papers, where we can develop analytical skill among the students. Clinical courses bridge the gap between theory and practice in legal learning. Study of law includes, reasoning, analysis and interpretation, which can be better equipped to the students through simulative exercises in the physical classrooms.

Course curriculum of legal education includes, internal assessment components. Forexample, project writing and seminar presentation. In the first phase itself, students face lot of difficulties as they cannot access to commentaries

and treatises in law which will authenticate their write up and for authoritative discourse of their presentations. No doubt, there are plenty number of materials are available online, but whatever available through online are text books and some articles which are uploaded in the google data base.

At the second instance, presentation of projects is made in presence of teachers and fellow students in the class, which boosts confidence among the students to present before the gathering tomorrow, it improves oral skills by rising questions at the time of presentations, students are made to spontaneously think and respond to the questions.

Because of the COVID-19, seminar presentations got drastically affected as the students are not made to present before the class and its challenging task for the law teachers to conduct seminar presentation for the students of remote areas those having no bandwidth. Dedicated and academic oriented students are deprived from learning only because of not having required electronic gadgets and equipment to attend the classes. It has become equally challenging for the teachers to involve the students of these categories. COVID-19 has widened the disparity among the students in terms of those who are having infrastructural facilities, uninterrupted power supply and other requirements. Those who are staying countryside are suffering frompowercuts and low internet connections. The ultimate purpose of teaching is to ensure that the last student with the least securing mark should be involved in learning process. The pandemic has defeated this purpose. Because, many students cannot involve in the learning as they have no facility for this equipment required for online.

It is very difficult to strike a balance between two conflicting interests, that is an academic autonomy of a teacher with that of regulation interms of ensuring regular teaching by educational institutions.One more challenge for the teachers is, due to rigid cumbersome technical requirements, teachers are not finding time to devote to upgradethemselvesby doing required research by reading qualitative literature and incorporating emerging trends with regard to the subject they are teaching. The time of teachers gets consumed to comply technical requirements than that of getting themselves involved in updating the knowledge by incorporating recent developments.

In teaching physical classes expressions and eye contact of both teachers and students, will express the process of teaching and learning. During online, we have to concentrate even on electronic gadgets as how they work and at what extent. It becomes like instead of giving Award to a valour soldier who fought in the war, to that of phirangi or arms used for. During online lectures, those students who are not having computers or laptops should completely depend on the mobile phones, which may get heated after 4 to 5 hours of continuous classes. Problem of power supply throughout the class also a great challenge for both the teachers and students.

Changes taken place in Law Teaching

Law teaching is not confined to the class lectures, it includes clinical courses and practical papers, it is these clinical courses which constitutes the core of law teaching, and its having learner centric approach. To meet the requirements of teaching and learning, lot of changes are made in this process and it requires to answer the challenges faced by us during pandemic by adopting new methods in this sector. Teaching should continue and even learning process, but to find the best way of imparting knowledge and academic delivery became inevitable. It is fascinating that the system has quickly adopted online mode of teaching, through various platforms be it G-suite, or Zoom or whatever. Creating google classrooms, scheduling the classes through google calendar, uploading contents, notes and other study materials, utilization of inflibnet online, to access the sources are became routine for the teachers and students.

If technology doesn't support, nothing can be made possible so, education sector and technology are closely connected and linked together now. Law teachers are suggesting for online lectures and internships, which can give some practical exposure to the students, but itcannot replace physical classes or clinical legal education.

Conclusion

For the purpose of managing the crisis and to develop a long-term sustainable Indian education system, all stakeholders including the Governments and the organisations strive hard by developing a policy which can bring back the system with lot many improvements. As a result of COVID-19 outbreak, the process of teaching is not getting converted in to learning. When teaching does not convert in to learning, the prime purpose of teaching gets defeated. Now, it is the high time to fight against the pandemic and to bring the education system up with strong base of policy framework prepared by the Government for future development.

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THE IMPACT OF COVID-19-CRM PRACTICES AND STRATEGIES IN LIFE INSURANCE CORPORATION (LIC) OF INDIA

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ABSTRACT

This examination researched the effect of COVID-19 on the protection business by contemplating the instance of India from March to June 2020. With an equal correlation with past pandemics, for example, COVID-19, we created traces for reproducing the effect of the pandemic on the LIC protection industry. The examination utilized subjective and quantitative meetings to assess the effect of the pandemic. As of now, the pattern is a financial downturn with diminishing benefits yet expanding claims. Because of the dropping of movements, occasions and other financial misfortunes, LIC Insurance saw a misfortune presently assessed at our correlation and estimate predicts a standardization of monetary pointers from January 2021. Meanwhile, while the pandemic perseveres, back up plans ought to adjust to working from far off areas, prepare and prepare staffs to work under friendly removing guidelines, upgrade network safety conventions and improve on claims/premium handling utilizing e-instalment channels. It will require the cooperation of the Indian Ministry of Health, Banking Sector, Police Department, Customs Excise and Preventive Service, other important Ministries and the worldwide local area to halt the pandemic.

Keywords: Corona virus; COVID-19; Insurance industry; Infection rate and pandemic.

1 Introduction

Corona virus disease, scientifically reclassified as COVID-19, has assumed global pandemic proportions [1]. It attained a pandemic status declared by the World Health Organization (WHO) on 11 March 2019 [1]. The current spread of the virus at a fast rate compared to previous pandemics hasresulted in a total lockdown of nations, ban on travels, public gatherings and closure of closure of offices. There has been global closure of businesses as well as the loss of jobs and lives. The general economic situation is a global recession. In most instances, the insurance industry and governments all over the world have become the beacons of hope to which people look for rescue from total annihilation. However, due to the fast increase in infection cases greater than the recovery of infected people, the pandemic hasover whelmed many governments and financially weakened some insurance companies. The impact of the pandemic on the Ghanaian insurance industry is yet to be estimated and projected to provide a guide for government and insurers for the simulation of future events.

Before the COVID-19-induced lockdown, the life insurance industry in India was on a stable footing and growing strongly. All major metrics including premiums saw double-digit YOY growth in January 2020. New business premiums were up 24% YOY in January at around $2.3

billion. First-year premium collections in January also showed similar growth, coming in at around $2.7 billion or +18% YOY, reflecting the strong uptick in new policy purchases. When the COVID-19 pandemic arrived in India, it reversed the positive trends seen earlier. Life insurance businesses were hit hard while customer behaviour made a paradigm shift.

2 Literature Review

Ganesan and Rajagopalan (2004) in their article on "E – CRM in Service Excellence", addresses e-crm strategies to explore the all available possibilities in activation, pre-active and also proactive service which are at the peak of its excellence. They highlighted that the competitive environment, eroding the margin, which are at the need to reduce the costs and also to keep customers, as they are the prime drivers for the organizations to embrace e-crm. They conclude that a well executedcrmstrategies can result in a number of quantitative benefits which also includes greater ability to sell and also to cross – sell, and to improve customer retention besides, reduces cost of services.

Dash Biswamohan and Mishra Bidhubhusham, (2012) an article on "E- CRM practices and Customer Satisfaction in Insurance sectors" the paper has revealed that on a global scale that a number of insurance companies are competing in the market. The customers are demanding quick and also better service from the service provider, for the insurance companies to last in the market; they have to update the quality, transparency and the integrity to acquire and also to retain customers in a long- run in a long range.

Dr. Dhiraj Sharma, Mrs, JyotsmaPahwja (2015) an article on "E-CRM Practices in Indian Health Insurance: A Comparative study of Public and Private Sector Players" stated that Privatization and Globalization wave, Indian Insurance Industry has seen a drastic change in terms of better products and services as the Indian consumers have become more intelligent and careful in choosing the desired health products at the best price. The comparative analysis of strategic CRM policies, usage and impact on overall organizational performance with respect to profitability, providing services and commitments.Results revealed that both public and private sector work on CRM policies, the companies using CRM software have benefited more than companies not using any software or data base to maintain their data of customers.

Al-Azzam (2016) a study on "The Impact of Customer Relationship Management on Hotels Performance" he says that Customer Relationship Management, are leading to form customer oriented behaviour, organizations have to improve a suitable working environment for service in work. For example giving staff with current tools, and technology, customer satisfaction, pursuing and complaint management systems, right reward systems can all make these behaviours, the achievement of CRM strategy depends upon the involvement of employees in the organization themselves, he concluded that customer orientation strategy is one of the organizational resources to increase customer satisfaction and business income.

Basman Al Dalayeen (2017) an article on "Impact of customer relationship management practices on customer satisfaction" he says that customer relationship management (CRM) is a combination of people, processes and technology that seeks to understand a company's customers.

3 Strategies of LIC

The LIC premiums are accepted through several methods such as net banking, debit card, credit card and also through payment apps such as Paytm, PhonePe, Google Pay, BHIM UPI etc. Apart from online means, the policy premiums can also be paid at all IDBI Bank and Axis Bank branches and by cash through Common Service Centres (CSC), operating at the block level. The insurance giant has assured that insurance claims because of death due to COVID-19 will be treated at par with other causes of death and that the payments shall be made on an urgent basis. LIC has said that death claims due to COVID-19 under 16 policies have been settled without any delays. The company has said that efforts have been made by its officials to locate COVID-19 victims on the basis of lists provided by government authorities to help the families. In the previous fiscal year 2019-20, the insurer has settled more than 7.5 lakh death claims with only 0.75 per cent of the total death claims reported remaining outstanding. Apart from this, policy payments such as survival benefit, policy maturity and annuities have been to the policyholders on due date through direct bank

transfers. LIC said that these payments were more than two crores in numbers in 2019-20.

In addition to online premium payment facilities, LIC is also selling five of its plans online which can be purchased with a click of a few buttons right from home. These are LIC's Tech Term, which is a pure protection plan, LIC's Jeevan Shanti Annuity plan, LIC's Cancer Cover, LIC's SIIP and Nivesh Plus – the last two being ULIP plans. LIC customers can visit the website https://licindia.in for enquires and online services such as premium payment, buy online policies etc. All the registered users on the website can also view Policy Status, Bonus Status, Loan Status, Claims Status, Revival Quotation, Premium Due Calendar, Premium Paid Certificate, Claim History, etc. The offices of LIC are currently operational with skeletal staff, whenever feasible, within the restrictions imposed by the local authorities. While other LIC employees are working from home.

4. Objectives

To investigate the strategies of COVID on customer relationship management practice in LIC.

5 Methodology

The target population of this study consists of customers of LIC policy holders. The size of the sample is 100 respondents. A well designed questionnaire has been used for collecting data from selected branches in LIC. The questionnaire set on a five point Likert-scale (5-highly satisfied to 1-highly dissatisfied). A total of 120 questionnaires were distributed but the corrected questionnaires were found only 100. The collected data has been analyzed with the application of Kruskal-wallish test.

6 Data Analysis and Interpretation

Hypothesis: There is significant difference between Mean Rank of qualification of policyholders with respect to Using Factors of Deployment of Technology

Null Hypothesis: There is no significant difference between Mean Rank of qualification of policyholders with respect to Using Factors of Deployment of Technology

Table .1. Kruskal-Wallis test for significant difference among Mean Rank of qualification of policyholders with respect to Using Factors of Deployment of Technology

Factors Deployment of Modern Technology	Qualification						Chi-Square Value	P-Value
	Below SSLC	SSLC	PUC	UG	PG	Others		
E-Payment	20.17	47.92	47.92	48.62	55.64	56.28	20.048	.001**
Mobile Communication	28.54	51.69	47.65	52.82	57.45	65.00	10.108	.072**
E-Application	27.54	46.69	51.54	53.07	58.38	64.63	11.143	.049*
E-News letters	29.04	42.08	49.00	56.37	58.83	49.75	11.702	.039*
E-Settlement	32.00	44.19	39.92	54.88	66.13	41.13	15.377	.009*
Communication through Social Media	36.63	46.38	44.00	53.89	56.73	63.25	6.308	.277

** denotes significant at 1% level

* denotes significant at 5% level

All ** Since P value is less than 0.01, null hypothesis is rejected at 1% level with regard to Factors of Deployment of Modern Technology, E-Payment and Mobile Communication of policy holders. Hence there is significance difference between Mean Rank of qualification of policyholders with respect to Factors of Deployment of Technology in the factors of E-Payment and Mobile Communication of policy holders.

All * Since P value is less than 0.05, null hypothesis is rejected at 5% level with regard to Factors of Deployment of Modern Technology, E-Application, E-Newsletters, E-Settlement of policy holders. Hence there is significance difference between Mean Rank of qualification of policyholders with respect to Factors of Deployment of Technology in the factors of E-Application, E-Newsletters, and E-Settlement of policy holders. E-Payment and Mobile Communication of policy holders.

No Star indicates that there is no significant difference between Mean Rank of qualification of policyholders with respect to Factors of Deployment of Technology factor Communication through Social Media, since P value is greater than 0.05. Hence the null hypothesis is accepted at 5% level with regard to Communication through Social Media.

7 Suggestions and Recommendations

The observed data that the branches have developed E-CRM, E- Customer Relationship Management is the key to success in the present pandemic situation. The Factors of Deployment of Technology like, E-Payment, Mobile Communication, E-Application, E-Newsletters, E-Settlement, Communication through Social Media, in these factors the settlement of claim mean score is very high in this result there are difficulties facing to the policy holders at maturity period of time. The insurance companies changing new technology based settling the maturity amount to the policy holders.

8 Conclusions

This present study concludes that, strategies of CRM practices in LIC are the modern technology used to the policy holders the Factors of E-Payment, Mobile Communication, E-Application, E-Newsletters, E-Settlement, and Communication through Social Media help to the customer in staying long run and retained the old LIC customers. In this pandemic situation strategies are online premium, and E-transaction definitely improve the customer's service in LIC of India.In this pandemic situation LIC encourage E-CRM activities to the policyholder's.These are more useful to the customers and also retained the LIC customers.

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ONLINE BUYING BEHAVIOUR OF CONSUMER ON FMCG PRODUCTS- IN THE ERA OF POST-COVID 19

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ABSTRACT

Technology has been modernised and internet rendezvous is escalating every day, so are the consumer's behaviour towards organisation.Covid-19 has transformed the world, people thinking has changed. Supply chain and the retailers have closed the doors. So, the consumers started looking at the products though different perspective.This study is based on the impact of digitalization on the consumers behaviour post Covid-19.Digitalization provides a prospect to the consumers to have a look into varieties of FMCG products as they provide information and assess the products based on their colour, quality etc. Digitalization plays a pivotal role as there will be a great change in the behaviour of the customer. The purpose of the study is look into while buying online products and to acquaint the customers with online transaction after the virus attack. In fact, it has provided an impetus to online transaction.
Keywords:Customers, Transaction,Internet.

1. INTRODUCTION

The rise of the internet and creation of digital revolution had some thoughtful and unanticipated effects in 21st century life. While the term digital revolution may seem like a vast and indistinct concept it is fairly easy to understand it, when one can see the constant evolving changes in the retail sector**.**The Covid-19 has reshaped the FMCG accelerating the fundamentalin a few weeks. The purchase habits of consumers have permanently changed with respect to the value, buying behaviour etc.,Consumers have embraced digitalization during Covid times which in turn has affected consumer behaviour. It was further recognized that digital marketing has an impact on consumer judgment making process with a more influential impact on problem recognition, buying decision and post purchase behaviour. Consumers have very high expectancy as a result of influence of technology. The emergence of online E-commerce portals line Amazon, Snapdeal, Flipkart have a lot of impact on digilitilisation and were dominant during the pandemic.A vigilant scrutiny of the changes in the buying behaviour of consumers and the makeover has kept the retailers alert to grab the attention to accomplish tangible benefits. The present generation of consumers have embraced to move through these settings. Customers presently are intensely anxious about the impact of Covid both on health as well as from the economic perspective

They react in different ways with their changing attitudes, behaviour and buying habits. Consumers are responding to this disaster in diverse ways. Some are apprehensive and anxious about the hygiene of the product. On the other side they are apathetic to pandemic and are moving on as usual.

2. DIGITAL TRANSFORMATION IN VELOCITY WITH THE CHANGING CONSUMER BEHAVIOUR DURING COVID

The intrusion of digital technology and its impact on the consumer behaviour in digital retail has very factualinvolvement during the pandemic. How brand owners need to adapt their communication strategies in order to build successful and meaningful relationships with consumers today will be their

formula to stay in the race.Consumer's priorities have turned out to be most centred on basic needs, hygiene and clean products. Digitalisation has seen the advance of customers migrating online for grocery shopping after Covid-19,

1. **Use of Mobile Apps:** Online retailings are being outpaced by mobile based buying. The modern smartphones have enabled improved shopping experiences, and it has become a very powerful connector across the retail channels, linking in-store and online modes of shopping especially to order online during the pandemic. In addition to vital information, consumers can in addition to access loyalty programs, real time check on store inventory and improved customer engagement. This action is the intellect of customer is inimitable and influences consumers buying behaviour.

2. **Mobile Based Payment Applications:** The retail payments can be done using mobile apps conveniently or with browsers. Mobile payments are flawless and it gives a big know-how to use the smartphones. The present consumers plump on smart phone for such payments as it's very convenient and made our ease. The simple reason being the rewards and discounts the payments provide and also the observance of security features. It was contact less transactions, and very helpful and the need of the hour. All this was possible from home.

3. **Social Media:** This social media has made gigantic leaps in this modern era for not only being in touch but also access to the most recent information to keep in touch with the current trends. This is a blessing in disguise as consumers during Covid times are inclined frequently to social media sites such as Insta, Facebook, Twitter, Pinterest, You Tube and Whatsapp. They acquire information about the various products, their design, color, prices and reference from these sites. They have realized the value of content marketing on these sites is organic, relevant and also adds value. The order of the day is not only product recommendation but tied with social mixing also.

4. **Voice Recognition and Virtual Reality:** Voice enabled search such as Apple's Siri, Amazon Alexa and Google assist are varying the way customers look for the products. Searching for products and services using ordinary speech makes the whole process easy and quick. It's greatly convenient and relaxing and also increases their inquisitiveness about the product. The consumers do agree that more and more of products and services should be channelized using this style as its easy for people who have limited knowledge. Another vital feature is to experience the reality of product digitally in the virtual world. This gives a more sensible image of the product they want to purchase.

5. **Customer Insights:** Gone are those days when customers were allied with luxury shopping unlike in real time. But in the present day after the digital transformation, consumers find varieties and at affordable prices. Even the companies have come up with the idea of designing the goods according to customers tastes and preference i.e., tailor made for them. Customisation gives value for their money and better access to all the products, as earlier they were unable due to various reasons.

6. **Reverse Show rooming:** Reverse showrooming occurs when a consumer enquiries about the product online but purchases the product in a store. Clothing and some consumer durables are done this way. This is advantageous as the consumer is equipped with the knowledge of the product and also has first hand information about the product he/she want to buy. The online survey has given them all the information they needed line origin, colours, texture etc. The ultimate step to feel the product and complete the process.This was myth during the pandemic as people could not step out but it is possible once there is unlock.

3. OBJECTIVES
1. To acquaint consumer knowledge and usage about online buying behaviour
2. To revise the problems faced while buying online product
3. To give the suggestion based on the findings.

4. METHODOLOGY

Consumers who are buying online FMCG products are the main source of primary data. Primary data was collected through a well-structured questionnaire. The study area is limited to South Canara district of Karnataka. The researcher has proposed the random sampling techniques for the selection of respondents. Finally,**100** respondents were selected and included the study. The Secondary data is collected through Journals as well as from websites.

5. LIMITATIONS OF THE STUDY

- ❖ Time was the crucial factor.
- ❖ The responses may be quite casual. This may be due to lack of interest.
- ❖ The study has been taken in some of the consumers in South Canara.

6. REVIEW OF LITERATURE

MirjanaTankosic, DraganaTrifunovic (2015) emphasise in their study about how important is digitization on consumer behaviours.They have stressed more on marketing communication and the rapid changes taking place globally due to new entity of media and the information they give.

Abhijeet Pratap (2017) and **AdityaJuyal (2013)** in their article stressed that consumer buying behaviour is affected by demographic factors like age, gender etc., and it differs from person to person and the distinction. Even some of other factors are income, age and education. He also analyse the informative role of consumer demographic factors independently and its digital affect in shifting consumer behaviour. The buying behaviour difference is seen in aspects like gender, income, age and educational level.
The impact of social media, visual advertisements and e-commerce are making it possible for the shift in consumer shopping experience as they are presenting them with various avenues which hitherto seems to be impossible. The success of these achievements is to find a technique to affect the marketing appraisals that seems to be very attractive to the eyes and expand consistent experiences with social media, other medias and digital platforms. **(HeiniLipiäinen (2014).**

Krishnamoorthy (2008) stated that rural consumers are required to study for influencing factors of their behaviour for FMCG. Price, promotion, packaging, quality, brand name etc. influence the purchase of the rural consumers.

Somashekar (2016) studied about the buying behaviour of customers in the FMCG sector. Consumption of FMCG products growing rapidly as the urban market was facing a saturation point. Entering of MNC'S in India has resulted in increased competition among domestic players. Packaging plays an important role in selling product. FMCG sector sees impulsive buying behaviour of customers like customer go to the shop to buy biscuits, they purchased chips along with it. The main factors influencing the consumer to buy products are taste, quality with low price. He concluded that marketers should give importance to these factors to increase their revenue. Thus, marketer needs to understand the behaviour of customer with the changing behaviour of customers.

Sudhamathi (2017) discussed the buying behaviour of customers in FMCG products. The study revolves around to know factors influencing consumer's preferences. The author discusses the consumption pattern, their lifestyle, perception about the product through advertisement. The conclusion of the report is consumers are more focus on quality rather than the price also health is an important factor that consumer focus to buying online.

Dey (2017) concluded that in India spending and Income of consumers has risen. Increase of internet and social media has changed dramatically. Lifestyle of consumers has shift, which affects change in buying behaviour of consumers, consumers awareness is also rising in both rural and urban areas. Urban people shift to fast and ready to eat food rather than the traditional way of cooking and cleaning. Customers shop more from malls and supermarkets than small shops and purchase items in bulk. Consumers have a huge impact on western culture, they buy branded products. The buyer should pass from following steps are Problem Recognition, Information Search, Evaluation of Alternatives, Purchase Decision, Post-Purchase Evaluation.

Sinha and Kim (2012) researched in the article that the quality information, ease of payment, online shopping benefits and loyalty on online purchase decision significantly. Also identify factors affecting consumers' behaviour based on online purchase considering perceived risks and service, products and infrastructure concerns. They have also added culture-specific factors like shopping and leisure habits, debit, credit or online penetration rate, Internet related infrastructure, reliability of postal carriers, etc. Convenience risk was found to be one of the factors affecting online buying behaviour of consumers.

Jagadeesan (2020) pointed out that understanding the consumer behaviour has always been an important factor in advertisement of FMCG products. Since this a century of digitalisation and globalisation, A Study of Factors Affecting Buying Behaviour of Indian Consumers Towards Online. *Corresponding Author: Dr. Syed Tabrez Hassan 48 | Page customers' wants, and requirements are modified. The Fast-Moving Consumer Goods sector contributes heavily towards the GDP of India

Uzun and Poturak (2014) told that convenience and trust are the most important factors of online shopping followed by price and quality of the products. According to the results, if the consumers have a good experience while buying online and they are satisfied with the products and services then there is lesser risk, and they intend to buy again which means they are loyal towards the brand or the product.

Digitalisation has become an integrated part of retail industry during covid 19, it has boost up growth of the industry as well as increased the no of customers. This sustainability trend is now also increasingly taking over other segments, such as electronics, household appliances, furniture or toys," confirms Alexander Lange, Business Development Manager at BuyBay. "Suppliers, especially well-known brands, are often concerned that they will cannibalize their offerings and brand image if they also make so-called B goods available to their customers. However, our experience in working with well-known vendors has shown that the offer of returned goods can help them to reach exciting new customer groups, who are attracted by the attractive price-performance ratio or by the sustainability concept.

Digitalization has boosted the intensification of industries and also the customers.The COVIDF -19 has been a tough time for most of the retailers throughout the world but retailers can still survive in this dynamic environment. All they need to do is concentrate more on their operations and try to change some of their strategies for some time till the COVID-19 is wiped away. The retailers can stress more on their inventories, supply chain management, new product development, apply new CRM techniques, change in the look of their stores etc. Although changing the strategies at a very short span of time is difficult for theretailers but this is the need of the time. Because it has been rightly said "Either Change or Die".During study it was also found that diversification as well as Product innovation can help the retailersin increasing sale of their stores. But product innovation comes with a risk for the success or failure of theproduct in the market.

7. DATA ANALYSIS AND INTERPRETATION

TABLE 1: Showing the frequency distribution of socio-demographic profile of the respondents

1. Gender		
a) Male		40
b) Female		**60**
	Total	100
2. Age (in years)		
a) 15-25		20
b) 26-35		**40**
c) 36-45		25
d) 46 and above		15
	Total	100
3. Educational Qualification		
a) No formal education		5
b) SSLC		15
c) PUC		**35**
d) Bachelor's degree		25
e) Higher Education		20
	Total	100
4. Occupation		
a) Student		10
b) Corporate		25
c) Self-employed		30
d) Government Employee	**35**	
	Total	100

5. Level of Income (per month)		
a) Less than 5,000		10
b) 5,001 to 15,000		15
c) 15,001 to 25,000		**40**
d) 25,000 and above		35
	Total	**100**

Source: Survey Data

TABLE 2: Showing the Purchase pattern of respondents before and during the pandemic

Sl. No.		Frequency		
		Yes	No	Total
1.	Do you have purchased FMCG goods through online **before** COVID-19 lockdown ?	40	**60**	100
2.	**During** COVID-19 pandemic whether you have purchased FMCG goods through online?	**70**	30	100

Source: Survey Data

TABLE 3: Showing the Reason for buying FMCG goods through online during COVID-19 pandemic

Sl. No.	Reasons	Frequency
1.	Health concern (Contact less Buying)	50
2.	More convenient	30
3.	Better Selection option in online	20
4.	Save money due to Better Discounts	60
5.	Save Time	40
	Total	**200**

Source: Survey Data

MRR = Total Number of Frequency
Total Number of Respondents
= 200 = 2.00
100

Table 4: Awareness of respondents on online FMCG products

Sl. No.	List of the Products	Not at all Aware	Not Aware	Neutral	Aware	Fully Aware	Total
1.	Food	5	10	0	15	**70**	100
2.	Beauty and Care Products	0	10	0	15	**75**	100
3.	Drugs / Medicine	30	**40**	5	10	15	100
4.	Books	10	15	5	30	**40**	100
5.	Detergents (Soap, Washing powder etc.)	0	10	5	40	**45**	100
6.	Toiletries (Finial, bathroom fresheners etc.)	0	10	0	40	**50**	100
7.	Stationary Items	0	10	0	35	**55**	100

Source: Survey Data

TABLE 5: Opinion of the respondents on ordering FMCG products through online

Sl. No.	List of the Products	Not Ordered	Rarely	Occasionally	often	Very often	Always	Total
1.	Food	0	0	10	0	15	**75**	100
2.	Beauty and Care Products	0	0	10	5	20	**65**	100
3.	Drugs / Medicine	**50**	0	20	0	10	20	100
4.	Books	0	0	15	5	30	**50**	100
5.	Detergents (Soap, Washing powder etc.)	0	0	10	5	25	**60**	100
6.	Toiletries (Finial, bathroom fresheners etc.)	0	0	10	0	30	**60**	100
7.	Stationary Items	0	5	15	10	25	**45**	100

Source: Survey Data

TABLE 6: Problems faced while buying through online

Sl. No.	Particulars	SD	D	N	A	SA	Total
1.	Unclear product information	10	20	15	10	**45**	100
2.	Fake product review	0	15	20	10	**55**	100
3.	Issues relating to quality of the product	10	15	5	**45**	25	100
4.	Lack of security	0	10	15	25	**50**	100
5.	Hidden cost	0	**50**	25	15	10	100
6.	Digital Payment Failures	0	25	15	10	**50**	100
7.	Delivery and logistics related problem	0	10	20	**45**	25	100
8.	Unclear return and guarantee policies	0	25	5	**40**	30	100

Source: Survey Data

Note: SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree, SD= Strongly Disagree

TABLE 7: Respondents Opinion on online buying FMCG goods through online

Sl. No.	Particulars	SD	D	N	A	SA	Total
1.	Covid-19 has increased your Frequency in online buying	0	15	5	30	**50**	100
2.	Do you agree that e-commerce industry is going to replace the traditional shopping of FMCG goods?	0	10	5	25	**60**	100
3.	Whether your satisfied with buying essential goods online rather than buying through retail shops?	0	20	10	**45**	25	100
4.	Online buying has played a vital role during the Covid-19 pandemic period	0	5	10	30	**55**	100
5.	In Post covid-19 whether you prefer to buy goods through online	0	5	20	**60**	15	100

Source: Survey Data

Note: SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree, SD= Strongly Disagree

8. SUGGESTIONS

➢ Awareness has to be created among the customer about the new as well as the existing products through print media and online media.

➢ Online payment issue has to solved by providing secured payment gateway.

➢ Website has to be frequently monitored to remove the product fake review.

➢ Proper packaging of the product has to be done in order to avoid the breakage/damage of the product.

➢ Build deeper understanding of new demand spaces and paths to purchase prioritizing accelerated e-Commerce sales (B2B/D2C)

➢ Reallocate and repurpose resources (e.g. field salesforce)

➢ Enable the shift in product portfolio by flexible (3rd party) manufacturing & logistics

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"OPINION OF STUDENTS ON ONLINE TEACHING AND LEARNING IN HIGHER EDUCATION IN

COVID-19 PANDEMIC: A REVIEW OF LITERATURE"

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ABSTRACT:

COVID-19 pandemic situation has disturbed teaching and learning process in a many of institutions. This situation has tested the efficiency of higher academic institutions to deal with such abrupt and unwanted situations and crisis. Online teaching and learning have become the main way of being in contact with students during the pandemic everywhere. Many researchers have studied Students' perception of the learning process that took place over that period of time with no face to face off line education. In this paper it has been tried to know the students' perceptions of online learning by reviewing the literature of research done by different researchers. The research paper selected for review haveexplored the effectiveness, challenges, and advantages of online education in different institutions. This paperanalysed that the common online platforms were Zoom, Microsoft Teams, Google meet etc platforms were used to offer online interactive classesand whats app is being used to communication with students outside the class. Many studies found that both faculty and students agreed that online education is useful during thepandemic. At the same time, many have also found that online education efficacy is less effective than face-to-face learning and teaching. Students gave the feedback as that online learning challengesin terms of lack of interaction and motivation, technical and internet issues, data privacy, and security. But students also opined about the advantages of online learning. The benefits were mainly self-learning, low costs, convenience, and flexibility. Even though online learning works as a temporary alternative due to COVID-19, it could not substitute face-to-face learning. But on the contrary it is also true that there is no other option for online learning in this situation.

Key Words: COVID-19, Online Learning, Students, Effectiveness

INTRODUCTION:

COVID-19 was declared as a global pandemic in March 2020 (WHO, 2020). It has drastically impacted all walks of life and all sectors including education. The effect is so hard that many institutions have closed down. This situation has put all the institutions to have unpredicted shift from traditional to online learning. Thisunimagined outbreak triggered new ways of teaching and learning online. Some institutions opposed and many institutions accepted the required change. In this pandemic situation the whole world has seen the most extensive educational systems change from offline to online in more than 190 countries worldwide. The outbreak of COVID-19 established partial or complete lockdown, where people are forced to stay home. The higher education institutions' closure

demands online learning, where the course material is taught. Many institutions have replaced face-to-face instruction with online learning platforms to control the outbreak's spread. The government had imposed a national lockdown, which resulted in universities and schools' closure.

Most global institutions opt to use synchronous and asynchronous online teaching methods: synchronous is where faculty and their students meet in a pre-scheduled time as a part of interactive learning classes, while the asynchronous method refers to the faculty giving the course without interaction with the students. There is no interaction between the faculty and students. Asynchronous modes of online learning suit students to access online material whenever they like. Faculty are the role players in making learning enjoyable, shaping students' attitudes and personalities, and helping students pass. COVID-19 spreads online learning culture across the culture. COVID-19 forced the shift to online learning, but some universities in underdeveloped countries are not adequately equipped to teach online efficiently. Moreover, the faculty's training is different globally between high-income, middle-, and lower-income countries. Another major obstacle is the Internet connectivity for underprivileged students. It is a de facto that face-to-face instruction is more efficient than online and the complete shift to online during COVID-19 makes it necessary to investigate the perception of students on online learning to identify the advantages and disadvantages, and challenges of online learning.

While the whole world is facing much trouble in the last few months, it has been difficult for the world, and the impact of online learning has been significantly observed on faculty members and students in particular. Teaching and learning online has a wide range of advantages, yet poses some challenges. It makes the process of learning for students' comfort due to time flexibility in attending classes. However, online learning acts as a barrier to the engagement of students in real class activities. Moreover, students lack the influence of peer learning. These challenges also leave an impact on student's personalities and prevent them from taking their turns. Additionally, the faculty's role is to teach, monitor, and provide advice for students on both academic and personal levels. The current crisis, COVID-19, highlights the role of the internet and technology in all walks of life including education. The pandemic has shown the role of online education in coping with abrupt crises, and therefore it is significant to understand both faculty' and student's perceptions concerning online classes.

OBJECTIVES OF THE STUDY:

1) To study the various views of the students about the online learning in this situation of COVID 19 through reviewing the research papers

2) To explore the advantages as well as disadvantages of online education through the review of literature

3) To understand the impact of shift of education from online to offline on students.

4) To analyse the perception of students about online learning through the review of papers

REVIEW OF LITERATURE:

Total 6 research papers have been studied to understand the perception of students seeking higher education about online learning and the impact of online learning on the students.

T.Muthuprasada, S. Aiswarya, K.S. Aditya, Girish K.Jhaa (January, 2021) have studied on "Students' perception and preference for online education in India during COVID -19 pandemic". This paper shows the efforts needed to be put by the higher education institutions to shift from offline to online teaching to adjust with the critical situation arose and fight against the pandemic situation and survive and continue giving education to the students. The efforts are being taken by universities and institutions for shifting to online platforms to catch up with the curriculum. This paper tries to put the perception and readiness of teachers and students for online education.

The findings of this study revealed that most of the students evinced a positive attitude towards online learning in the worst situation of COVID 19. The online learning was found to be advantageous as it provided flexibility and convenience for the learners. Students preferred well-structured content with recorded videos uploaded in university websites. They also indicated the need for interactive sessions with quizzes and assignments at the end of each class to optimise the learning experience. However, most students also reported that online classes could be more challenging than traditional classroom because of the technological constraints, delayed feedback and inability of the instructor to handle effectively the

Information and Communication Technologies. Therefore, all these factors should be considered while developing an online course to make it more effective and productive for the learner. It's possible thatonce the COVID-19 pandemic settles down, we may see a continued increase in education systems using online platforms for study aids, albeit in a hybrid mode in combination with regular classes. Hence this study will prove useful for reimagining and redesigning the higher education with components involving online mode.

Shivangi Dhawan (2020) in her research titled "Online Learning: A Panacea in the Time of COVID-19 Crisis" concluded that natural disasters always make human beings to change accordingly. Higher education giving institutions are not exceptions. COVID-19 situation has given motivation for the adoption of highly innovative communication technology and e-learning tools. To make e-learning effective in such difficult times, stakeholders of educational field should focus on the use of technology more efficiently, that is, the usage of that technology which has minimum procurement and maintenance costs but can effectively facilitate educational processes. The author suggests to consider all the advantages and disadvantages of the tools to be used in e learning before implementing them. Institutions should conduct plenty of research when bringing the right technology for different educational initiatives. There should be proper clarity on the purpose and context of technology adoption. Various factors which affect the choice of a particular technology such as security features, availability and condition of laboratories, internet speed, internet access, digital literacy levels of the beneficiaries should be considered. As per the authors view such systems need to be developed in educational institutions that make sure that no student is getting deprived of education due to their location, social class, ethnicity, and so on. Disasters and pandemic such as Covid-19 can create a lot of chaos and tensions; therefore, there is an important need to study the technology deeply and with due diligence to balance these fears and tensions amidst such crisis.

Kari Almendingen, Marianne SandsmarkMorseth, Eli Gjølstad, AsgeirBrevik, Christine Tørris (2021) in their research paper "Student's experiences with online teaching following COVID-19 lockdown: A mixed methods explorative study" found that although students had little previous experience with online education, these students seemed to adapt quickly to the sudden shift to ad hoc online education due to the COVID-19 pandemic. The most concerned problems among students were found to be lack of social interaction, a feeling of being alone in their studies without group studies, bit of uncomfortable environment including insufficient data bandwidth and a sense of reduced motivation and effort. Although data analysis showed that face-to-face contact was greatly missed during this time-period, students adapted with the urgent requirement of having online education to complete their academics. The study also revealed that the students expressed that they wanted more structure in future digital courses and the students started feeling comfortable with online education which could be a bit threaten for continuation of off line education.

ShyamSundarSarkar, Pranta Das, Mohammad Mahbubur Rahman and M S Zobaer (July 21) in their research paper "Perceptions of Public University Students Towards Online Classes During COVID-19 Pandemic in Bangladesh" have denoted these points. Historically, Bangladesh's education system follows conventional face-to-face or in-class schooling in almost all education institutions, including schools, colleges, and universities. Nevertheless, after the declaration of closure of educational institutions since the emergence of the COVID-19 pandemic, the government has focussed on online-based schooling in Bangladesh's educational institutions. Therefore, both the teachers and students are trying hard to get accustomed to this newly introduced practice. Although they have become familiar with the technique, many factors are still raising challenges for successfully utilizing this online schooling technique. However, the online class is still the only medium to continue education in the middle of this pandemic situation when the government has imposed school closure, and countrywide lockdown started.

Through this study, researcher tried to explore the perceptions of public university students towards the online schooling process. Researchers found the mixed result. Although few students are getting benefitted from online classes, most of them face some troubles. For instance, online schooling has created discrimination between rural and urban students, between laptop/PC users and mobile phone users, between WI-FI users and mobile network users. Thus, a sustainable learning and teaching medium is affected. Moreover, students cannot interact with the

teachers and their classmates during online classes. The group work opportunities among students are also restricted. The availability of high-speed broadband or cellular internet connection is rare outside the city areas; thus, students in rural areas are continuously facing trouble getting a stable internet connection. Therefore, their participation in online schooling is often affected. Rural areas also face issues with electricity connection which is an additional burden. Moreover, students often do not have electronic gadgets to participate in online classes effectively. Nonetheless, we revealed that female students had more positive attitudes toward virtual classes than male students. The study also revealed that it is highly appreciated that the government has started broadcasting classes for the students through television and radio, but some improvement in the action plan is still possible. The study also suggested to have concrete guideline or policy help educational institutions take sustainable actions during the pandemic to keep the education services going on.

Mohammed Arshad Khan, Vivek, Mohammed KamalunNabi, MaysoonKhojah and Muhammad Tahir (December 2020) have made the study on "Students' Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study" This present study analyses the perception of university students towards e-learning during the ongoing COVID-19 pandemic. The study reveals the preferences of students for e-learning as it provides them much freedom to connect with their teachers, fellow students and engage with their study materials at the comfort and flexibility of space and time. The easy access of study resources is found to be one of the major reasons for the students to opt for e-learning. The study indicates that e-learning technology enables easy information access leading to positive attitude formation of students towards it. This finding is based on usefulness, self-efficacy, ease of use, and the behaviour of students as regards e-learning. The study affirms the usefulness of e-learning such as ease of study from any geographical location which is not possible in case of conventional face to face-learning. Furthermore, the study illustrates the similar experience of being educated as done through the physical classroom teaching as students perceive e-learning as analogous to face to face-learning. This research study indicated that in the recent past, e-learning has gained immense popularity in India as students are found to be inclined towards online learning tools to interact with each other and the educators as well. Furthermore, in the absence of face-to-face interaction, digital technology has also been well accepted by the students for the purpose of learning. Therefore, necessary measures should be adopted for improving the quality of E-learning to help with better learning of students during the phase of Covid-19 pandemic.

Claudiu Coman, Laurentiu Gabriel Tîru, LuizaMesesan-Schmitz, Carmen Stanciu, and Maria Cristina Bularca(December 2020) have done research on "Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective. The study led to two categories of implications: practical and theoretical implications. The study had been in relation with higher education in Rome. On a practical level, a series of useful recommendations for teachers can be outlined in order for them to succeed in increasing the quality of the educational process in the online environment. The paper explains how difficult it is for the students adjust with online education but with practice the student's opinion would be positive. It has been suggested that universities could develop training sessions for teachers or could develop programs whose role would be to stimulate teachers' performance and implicitly the quality of the educational process. Technical issues are still the issues most difficult to solve, due to the capacity of the servers owned by universities. Surely, universities have made efforts in order to solve these problems and improve the way the E-learning platforms work. Still, students' technical problems remain poor internet connections, signal loss, lack of adequate digital devices, especially for students living in rural areas or students from families with low incomes. Universities could create programs to meet these types of needs and thus facilitate the learning process for students who find themselves in these situations. The paper suggests in improving teachers' technical skills, developing training programs meant to help teachers remodel and adapt their teaching style and the way they interact with students, to the online environment. The main challenge is that the higher education system has to face today are: teachers' resilience to change and changing students' perception towards online learning. Training programs for teachers need to be developed in order to: help them adapt to the changes, to help them understand that the future of education in higher education systems involves the online environment, that it is unlikely that the system will return to how it was before the pandemic, and that online teaching is a new way to interact with students. Some teachers who are open

minded, flexible and interested in developing themselves became self-taught and tried to improve their teaching skills. However, a certain segment of teachers still manifests resilience towards learning how to use new tools and they use, during the courses, only the basic functions of the E-learning platform. It is also important to mention that in the higher education system, it is more difficult for teachers to acknowledge that they do not know how to use certain tools provided by the platforms, which is why they do not ask for support in this regard. Still, only technical skills are not enough, teachers also have to adapt their methods of teaching to the online environment.

CONCLUSION:

The review of literature done on "Opinion of students on online teaching and learning in higher education in COVID-19 Pandemic: A review of literature" based on six research papers shows one common point that the covid situation has hit the education line in a different way. Online teaching and learning have emerged with some advantages and some disadvantages. It has put a great challenge in front of higher education institutions, teachers and students. The quality of education now has a question mark as this online education has come with abundant problems of getting adapted with this new environment and facing the technical problems too. But if the institutes have to survive in the future there is no other way than the online education. As it is said survival of the fittest, the institutes which will strive hard and take efforts to make online education successful they will survive in the future and those won't may face problems. It can be concluded that though there are hurdles for online education in higher education it has to be continued with by maintaining quality as natural calamities may hit anytime.

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IMPORTANCE OF YOGA FOR HEALTH AND WELL-BEING OF IT WORKFORCE IN THE NEW NORMAL: A NARRATIVE REVIEW

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ABSTRACT

*Background:*Lifestyle and workstyle in the new normal are taking a toll on IT workforce health and well-being, and productivity.

*Aim:*A brief narrative review of the existing body of literature summarizes the main findings on the health and well-being scenario of the IT workforce in the old and new normal and the benefits of organizing yoga programmes for the enhancement of the same.

*Method:*Literature searches were conducted in three electronic platforms, namely Web of Science, Scopus and Google Scholar, to identify the most relevant peer-reviewed research papers on "employee health and well-being", "IT industry", "yoga" and "COVID-19 pandemic".

Results: Yoga sessions have become a crucial part of corporate health promotion initiatives, that are being organized with the purpose of reducing or preventing the causes of many severe health problems, reducing work withdrawal behaviours and accidents, increasing employee morale and productivity, leading to improvement of organizational efficiency and profitability, and hence generating economic advantages.

*Conclusion:*Yoga programmes are simple, cost-effective solutions for organizations offering numerous health and well-being benefits in a short span of time. IT companies should organize regular yoga programmes for their workforce, with the aim of improving their long-term well-being in the new normal.

Keywords: employee health and well-being, yoga, IT professionals, working from home (WFH), new normal

INTRODUCTION

Industry 4.0 has been accelerating globalization, digitization and – a burnout culture. As in the last three decades global Information Technology (IT) sector has been rapidly increasing, so has the need of taking care of the health and well-being of its workforce. IT professionals across the world work long and erratic hours at an unsustainable pace (Ralph et al., 2020), usually across different time zones. Despite big salary packages and high social status, their health scenario is worrisome. This has become especially important during the COVID-19 pandemic. The majority of the IT employeesface various mental and/or physical health conditions,which can have a negative impact on their motivation and performance. The most common complaints range from occupational stress, sleep disorders, fatigue to chronic headaches, backpain, diabetes and hypertension.Due to social distancing, isolation and work-life imbalance, COVID-19 pandemic life- and working style have been taking a toll on employee health and well-being. Many IT companies have been

offering numerous wellness programmes, including yoga sessions, to their employees, in order to help them enhance their health and well-being. Still, there are many companies that need to follow their example.

AIMS

This paper is a brief narrative review of the existing body of literature that summarizes the main findings on the health and well-being scenario of the IT workforce in the old and new normal and the benefits of organizing yoga programmes for the enhancement of the same.

METHODS

Literature searches were conducted in three electronic platforms, namely Web of Science, Scopus and Google Scholar, to identify the most relevant peer-reviewed research papers on "employee health and well-being", "IT industry", "yoga" and "COVID-19 pandemic". Searches were limited to the English language and publication date (2001-2021). Firstly, the titles and abstracts of the retrieved articles were screened. Afterwards, the full text of the potentially relevant article was read. Authors have also used personal collections of important publications.

FINDINGS

Health and well-being of IT professionals in the "old normal"

The health and well-being status of IT professionals was alarming even before the COVID-19 pandemic. Though the IT industry is characterized by different nature of jobs, e.g. voice-based Business Process Outsourcing (BPO) employees vs. software developers, common causes and effects of poor employee health and well-being could be observed.

Occupational stress, the main characteristic of IT jobs, can cause depression, anxiety, poor performance, various health issues (Ninaus et al., 2015), such as backpain, gastrointestinal disorders, and burnout (Hartfiel, Havenhand, Khalsa, Clarke, & Krayer, 2011). If combined with a sedentary life- and work style, it could lead to diabetes, cardiovascular and metabolic diseases and eventually to "sedentary death syndrome", i.e. associated mortality (Lees & Booth, 2004; Cheema, Marshall, Chang,

Colagiuri, & MacHliss, 2011). Due to the fast-paced work environment, repetitive and monotonous work-related tasks, or fear of losing a job amid a period of economic uncertainty(Gura, 2002;Savitha & Vijila, 2016),risks of mental and physical disorders among the IT workforce are likely to increase. Consequently, work withdrawal, such as reduced employee morale, absenteeism, increased employee turnover and reduced productivity, take place (Savitha & Vijila, 2016; Maddux, Daukantaité, & Tellhed, 2018).

Besides depression and anxiety, sleep disorders are another common health condition among IT professionals (Padma et al., 2015; Prathyusha, 2019). As the majority of the IT workforce caters to domestic and international markets across different time zones, erratic office hours and "graveyard shifts", i.e. regular night shifts, are quite typical. As a result, sleep disorders among the IT workforce range from 39.5% to 83%, Information Technology enabled Services (ITeS) industry and voice-based BPO industry averages, respectively(Raja & Bhasin, 2014).Chronic sleep deprivation decreases cognitive and executive functioning, causes fatigue and depression and weakens the immune system.

As IT professionals work long hours with computer terminals, various musculoskeletal disorders (such as a cumulative trauma disorder or CTD), headaches, eye and vision problems (also known as Digital Eye Strain or Computer Vision Syndrome) might develop (Pinto & Ulman, 2004; Telles, Dash, & Naveen, 2009;Raja & Bhasin, 2014).

Health and well-being of IT professionals in the "new normal"

Besides working across different time zones, working style in the IT industry has been characterized by "remote teams" and "virtual working", also known as "remote working", "working from anywhere" (WFA) or "working from home" (WFH).WFH has gained its popularity due to various potential benefits for both the workforce and organizations, such as working time flexibility, increased job satisfaction, employee retention, and cost-effectiveness (Bao et al., 2020).Remote or virtual working improves work-life balance, creativity, positive affect, productivity, and at the same time reduces stress (Russo, Hanel, Altnickel, & van Berkel, 2020).On the other hand, remote

employees face collaboration and communication issues, loneliness, inability to switch off after work, i.e. a tendency to overwork, and stay motivated, distractions at home and even burnout (Bao et al., 2020;Neto et al., 2020; Russo et al., 2020)

In March 2020 COVID-19 pandemic has forced everyone to adapt to a new way of living and working, i.e. to a "new normal". During lockdowns and curfews, the physical presence of the majority of the workforce in the organization was removed (Sinclair et al., 2020). In order to perform the required work, working from home (WFH) was the only option for IT professionals (Ralph et al., 2020). WFH in the old normal and WFH in the new normal differ tremendously (Bao et al., 2020; Neto et al., 2020). Life and work in the new normal have been characterized by social distancing, work-life imbalance, a lack of proper ergonomics and remote work infrastructure at home (such as a suitable working station and internet connectivity), absence of child care, educational and fitness facilities (Ralph et al., 2020). Due to everything mentioned, higher rates of stress, depression, anxiety and sleep disorders have become frequent issues among the working population(Galea, Merchant, & Lurie, 2020; Neto et al., 2020). As organizations have recognized that only healthy employees staymotivated, engaged and productive, employee health and well-being have gained more attention (Carnevale & Hatak, 2020).According to Russo, Hanel, Altnickel, & van Berkel (2020), continuous high levels of stress decrease employee well-being. With the aim of improving employee productivity, organizations should help them maximize their emotional well-being(Ralph et al., 2020; Russo et al., 2020). Various mindfulness-based stress reduction practices are recommended for the purpose of decreasing stress levels, and eventually the risk of work burnout, such as slow breathing exercises, mindfulness meditations and mindfulness awareness during yoga postures.

Workplace health andwell-being promotion programmes

As employees spend most of their days working, employers are responsible for their health and well-being, especially because organizations control the conditions under which employees work (C. Chu & Dwyer, 2002).Workplace wellness programmes are the perfect tool for influencing the long-term lifestyle choices of the workforce (Baicker et al., 2010) and successfully reducing or preventing the causes of many severe health problems.Half of all deaths in the USA were caused by modifiable behavioural risk factors and behaviour patterns (Goetzel & Ozminkowski, 2006). Adding to that, preventable chronic diseases, caused by stress, physical inactivity, obesity and smoking, cause 70% of the US health plan's medical and pharmacy expenditures (Goetzel & Ozminkowski, 2006; Stokes, Henley, & Herget, 2006; Baicker et al., 2010).The importance of workplace wellness programmes in the IT and BPO sector is growing. The majority of the voice-based BPO workforce follow an unhealthy diet, excessive coffee drinking, smoking, alcohol, and even drug abuse, and find it challenging to achieve and maintain work-life balance(O'Donnel, 2006; Raja & Bhasin, 2014). According toFarrow (2006), workplace health and well-being promotion is a "combination of efforts to create and promote safe and healthy workplace environments, together with employees' behaviour attitude and lifestyle improvements".

Health promotion initiatives are being organized with the purpose of reducing work withdrawal behaviours (e.g. presenteeism, absenteeism) and accidents, and at the same time increasing employee morale and productivity, leading to improvement of organizational efficiency and profitability, and hencegeneratingeconomic advantages. (Farrow, 2006; Baicker et al., 2010; Mokaya, 2012;Hesketh & Cooper, 2014).The main concerns that arise when organizing workplace health promotion programmes are low participation rates, the fact that most of the wellness initiatives are not used by the employees with health problems, but the healthier ones, and that eventually,employees' healthbehavioursdo not improve(Gibson et al., 2017; Pedersen, Halvari, Solstad, & Bentzen, 2019). Employers are trying to solve this problem by offering incentives to the employees who need help with their health, to increasetheir motivationfor participation.The most popular workplace health and well-being promotion programmes among employers are stress management, sleep management, health coaching, weight management, cognitive behavioural therapy, relaxation, meditation and deep breathing (Chu, Moy & Mueller-Riemenschneider, 2014).

Yoga – history and importance

Yoga is an ancient Indian science of balancing mind, body and spirit. The term *yoga* is derived from the Sanskrit root *yuj,* meaning "to bind or yoke together", usually denoting "a union with the divine". It is considered to be 5000 years old, though its age cannot be exactly defined. Yoga consists of eight limbs, namely *yama* ("ethical standards and sense of integrity"), *niyama* ("self-discipline and spiritual observances"), *asana* ("physical practice"), *pranayama* ("breathwork"), *pratyahara* ("bringing intentions or attention inward"), *dharana* ("meditation, enhancing concentration"), *dhyana* ("meditation, uninterrupted state of focus to the point of union with the divine") and *samadhi* ("meditation, focused on connection to the divine, experience of bliss or joy") (Schmid et al., 2021). Over the past few decades, yoga has gradually developed from the counterculture into the mainstream (Jain, 2015) and has become a transnational global phenomenon (De Michelis, 2007). Today the term *yoga* refers to modern postural yoga (MPY), which prioritizes *asana* (physical posture) and *pranayama* (breathing techniques) and occurs in a classroom or sessional setting (Graham, 2014).

It is possible to show the benefits of yoga and the need of incorporating it into daily life to a larger audience, thanking the significant increase in the number of studies on the clinical applications of yoga (De Michelis, 2007). Yoga works two-way: mind-body and body-mind. With the help of *asana* and *pranayama*, the mind relaxes, helping the body to get cured of numerous psychosomatic disorders. Somato-psychic mechanism occurs during the practice of *asana*, during which physiological changes in the body (e.g. the release of endorphins) induce a sense of relaxation and well-being (Bhavanani, 2018). Growing evidence demonstrates the effectiveness of yoga and pranayama, such as stress and tension reduction and sleep quality enhancement (Bankar, Chaudhari, & Chaudhari, 2013; Önder, 2019; Wang, Chen, Pan, Yang, & Chan, 2020).

The yoga industry, comprising of yoga classes and products, has been developing impressively– from the revenue of US$ 5.7 billion a year in 2009 (Graham, 2014) rising to US$ 9.9 billion in 2015. In 2016, 36 million Americans reported practising yoga, because of various experienced physical and psychological benefits, such as stress relief, injury rehabilitation and an increase in flexibility (Francis & Beemer, 2019; Park, Quinker, Dobos, & Cramer, 2019).

Immediate improvement of life purpose and satisfaction, followed by a greater self-confidence during stressful situations, could be delivered even by a short yoga programme (Hartfiel et al., 2011). Prolonged regular yoga practice improves physical fitness, flexibility, strength and balance (Gura, 2002; Bhandrani et al., 2012), relieves physical tension, alleviates pain, improves posture and reduces risks of injury (Gura, 2002). Simultaneously, it enhances emotion regulation, mood and personal relationships. By combining all benefits, it assists in the attainment of optimum health. (Bhandrani et al., 2012).

Yoga for Employee Health and Well-being

Yoga has become a crucial part of workplace health and well-being promotion programmes. Yoga sessions in work settings usually teach only some of the limbs of yoga, i.e. physical postures, breathing techniques, relaxation and meditation. By practising yoga, working professionals can attain various benefits, from a stress and anxiety decrease to overall wellness and well-being increase (Gura, 2002; Maddux et al., 2018). Furthermore, it improves attention span and communication skills at work (Gura, 2002). As it decreases aggressive behaviour and increases positive affect, it is crucial for counterproductive work behaviour (CWB) (Dwivedi, Kumari, Akhilesh, & Nagendra, 2015).

The number of yoga programmes in the corporate sphere has been increasing rapidly during the last two decades. By 2008, yoga classes at the workplace were common for 5% of US companies (Hartfiel et al., 2011). Its popularity among the US workforce nearly doubled, from 6 to 11 percent from 2002 to 2012 (Ramesh, Joseph, Kiran, Kurian, & Babu, 2016; Kachan et al., 2017). Yoga-based programmes have become popular among employers and employees alike, due to their simple teaching process, minimal investments required for the execution, various health and well-being benefits provided, and an increase in job satisfaction and productivity (Cheema et al., 2011).

Various modes of delivery of yoga classes are available, from virtual and hybrid to on-site. As working has become virtual, so have most yoga programmes also. Sessions have been offered in different modes – through applications, pre-recorded materials or live on conferencing platforms.

CONCLUSION

Due to the COVID-19 pandemic, IT professionals are forced to work from home. Conditions such as stress, isolation, business closures, and absence of educational, child care and fitness facilities are making working from home (WFH) during the COVID-19 pandemic different from a normal WFH.Lifestyle and workstyle in the new normal are taking a toll on employee health and well-being, and hence on employee productivity.In order to help the workforce to improve their health and well-being, employers in the IT sector should organize various health and well-being promotion programmes, including yoga and meditation sessions.Yogic practices can reduce stress, depression, anxiety, improve sleep quality, enhance memory, and therefore, improve IT professionals' well-being during the pandemic, especially during the lockdown. Yoga programmes are simple, cost-effective solutions for organizations offering numerous health and well-being benefits in a short span of time. Various modes of delivery of yoga classes are available, from virtual and hybrid to on-site, with the aim of keeping the workforce healthy, happy and productive.

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ASSESSMENT OF PHYTOPLANKTON AS THE THIRD GENERATIONAND

FOURTH -GENERATION BIOFUELS

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ABSTRACT

Like India a highly populous country, when the conventional Mode of fuel is on the verge of finishing, there is a huge demand searching for an alternative source of fuel, to satisfy automobile transportation. In this scenario, we have one option to shift the whole transportation system on fourth-generation Biofuels like electricity, but for this many things must be changed at a rapid rate, which is not feasible, so here comes another option using Phytoplanktons as the feedstock for producing Biofuels to overcome the present deficit. Due to shorter growth cycles, as compared to any terrestrial plants, the potential productivity of biofuels is much higher in magnitude. Phytoplanktons is a great food source as well because of their unique properties like high mineral content, its availability, presence of rare carotenoids the most importantly greatest source of long-chain of omega 3 fatty Acids.The objective of this research is to study Phytoplanktons as an alternative source of our today's highest demand Biofuels. The main attraction of this review is the promising content of Phytoplanktons in the Food and medicine field too.

Keypoints: Phytoplanktons, For medicinal properties its PUFA analysis, Alternative Source of Biofuels.

INTRODUCTION:

Climate change due to the emission of greenhouse gases caused by the depletion of oil reserveshas become the most critical issue facing humanity in the next couple of decades. To be considered for the position of replacement fuel for the transport sector, the potential candidates would have to meet a set of requirements that are aimed at ensuring that they can meet the requirements for a long-term and low-carbon emission. Hybrid and electric vehicles are more fuel-efficient but they require a limited resource of heavy metals for their batteries. Biofuels are also more sustainable and are produced from biomass. As a major source of renewable energy, biomass has been regarded as a vital part of the world's energy supply. It is expected to contribute more than 50% of the US total energy consumption by 2050 About 98% of greenhouse gas emissions come from fossil fuels. By reducing the use of these fuels, we can reduce their carbon footprint. For energy security, the global energy mix consists of fossil fuels such as oil and natural gas, as well as renewable energy such as wind and solar. The industrialization has significantly shrunk the biomass consumption of primary energy. Despite this, the role of phytoplankton is often overlooked. They play key roles in Earth's biogeochemical and human economy. Since biomass now accounts for only a small portion of Earth's primary energy consumption, the importance of phytoplankton has been neglected. We commonly use petroleum and natural gas for our energy needs. The Chlorella Vulgaris can provide both a bioenergy source and fuel oil.

Systems that use algae for wastewater treatment have the potential to provide low-cost and eco- friendly solutions for treating wastewater. Their systems can also serve as sources of advanced bioremediation and biofuel generation. Integrated algal water treatment systems can help minimize the harmful effects of nitrogen and phosphorus on the environment. They can also helpproduce valuable products by cultivating algae that can consume both N and P from wastewater.

In addition, ponds can be more efficient than plants in capturing solar energy. Bioreactors can also be more productive than plants. The US Department of Energy supported a project to develop algae for bioenergy production. Biodiesel is a processed fuel that is derived from biological sources. It is safe and is generally used as a replacement for traditional petroleum diesel. Its high lubricity and calorific value make it a clean-burning fuel. Due to their high volatility and low kinematic viscosity, animal fats and vegetable oil as combustible fuel are not suitable for use in diesel engines. Biodiesel has very high calorific values. The maximum calorific value of biodiesel is around 41 MJ/kg. In Table 1, the Calorific values of biodiesel areshown. They are also known to provide various advantages such as engine wear and longer engine life.

Table No.1 Calorific Values of Biodiesel from Different Vegetables oil

Biodiesel	Calorific value KJ/Kg	References	Biodiesel	Calorific value KJ/Kg	References
Argemone Mexicano oil	40,800	Singh and Singh 2010	Paradise oil	40,285	Devan and Mahalakshmi 2009
Castor seed oil	39,160	Panwar et al.,2010	Peanut oil	40,100	Kaya et al.,2009
Cottonseed oil	40,430	Hazar 2010	Palanga oil	38,660	Sahoo and Das 2009
	41,200	Aydin and Bayindir,2010		41,397	Sahoo et al.,2007
Cynara cardunculus oil	37,200	Lapuerta et al.,2005	Pomace oil	43,540	Caynak et al.,2009
Honge Oil	36,100	Banapurmath et al.,2008	Pongamia Pinnata oil	35,560	Suresh Kumar et al.,2008
Jatropha oil	42,673	Sahoo and Das,2009	Pumpkin seed oil	38080	Schinas et al.,2009

MATERIAL AND METHODOLOGY

Different materials like waste products of different dairy products will be collected separately. All the samples have been collected autoclaved and labelled as sample no1,2,3…..

Fig:1   Fig:2

Source: Ramjas College Chemistry Lab Delhi university

METHODS :

I will use the ultrasonic extraction method to harvest the algae. The oil will be used as fertilizer. Oil extraction should be converted into Biodiesel through transesterification reaction.

In the transesterification process, a glyceride reacts with alcohol, which is usually a catalyst.

There are different tools and techniques, which are used in my Research Work, which are following:

• Autoclave
• NMR Spectroscopy
• LCA through GREET Software

Autoclave: Autoclave sterilizer is a device that uses steam to kill bacteria and other harmful substances in a sterilized environment. This method of sterilizing is very economical and can be done by using simple chemicals.

Fig:3

Fig:4

Source: Ramjas College Chemistry lab Delhi University

NMR Spectroscopy

NMR spectroscopy is a study of molecules by recording their interaction with radiofrequency radiations. Nuclear magnetic resonance spectroscopy is a vital tool for organic chemists. It can provide them with valuable information on the structure of their molecules and the purity of their samples. This method is an efficient and fast method for the quantitative analysis of complex lipids and fatty acids in microalgae. It is being used for the identification of new functional health products and their derivatives. The procedure consists of extraction of the biological matrix by the modified Folch method and direct analysis of the resulting material by proton nuclear magnetic resonance (1H NMR). The protocol uses a reference electronic signal as an external standard (ERETIC method) and allows assessment of total lipid content, saturation degree and class distribution in both high throughput screening of algal collection and metabolic analysis during genetic or culturing studies. [Genoveffa Nuzzo; et al. (2013)]
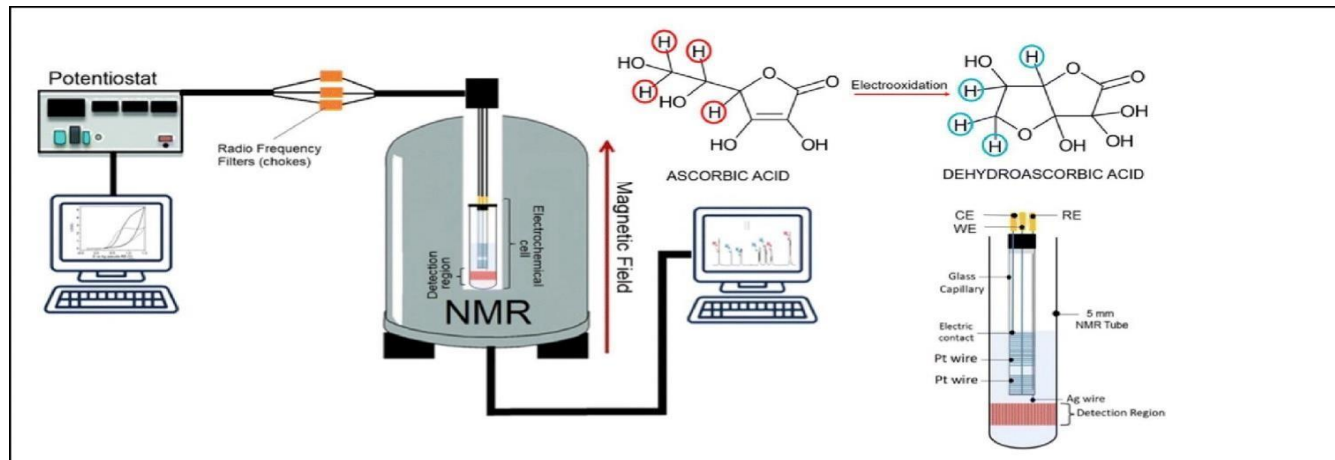

Fig:5 Source: https://www.sciencedirect.com/science/arti cle/pii/S0026265X18314206

GREET & LCA Software
The Greenhouse gases, Regulated Emissions, and Energy use in Technologies Model
This software will be used to determine the bio-oil and oil properties. It will also determine the greenhouse gases' calorific value.

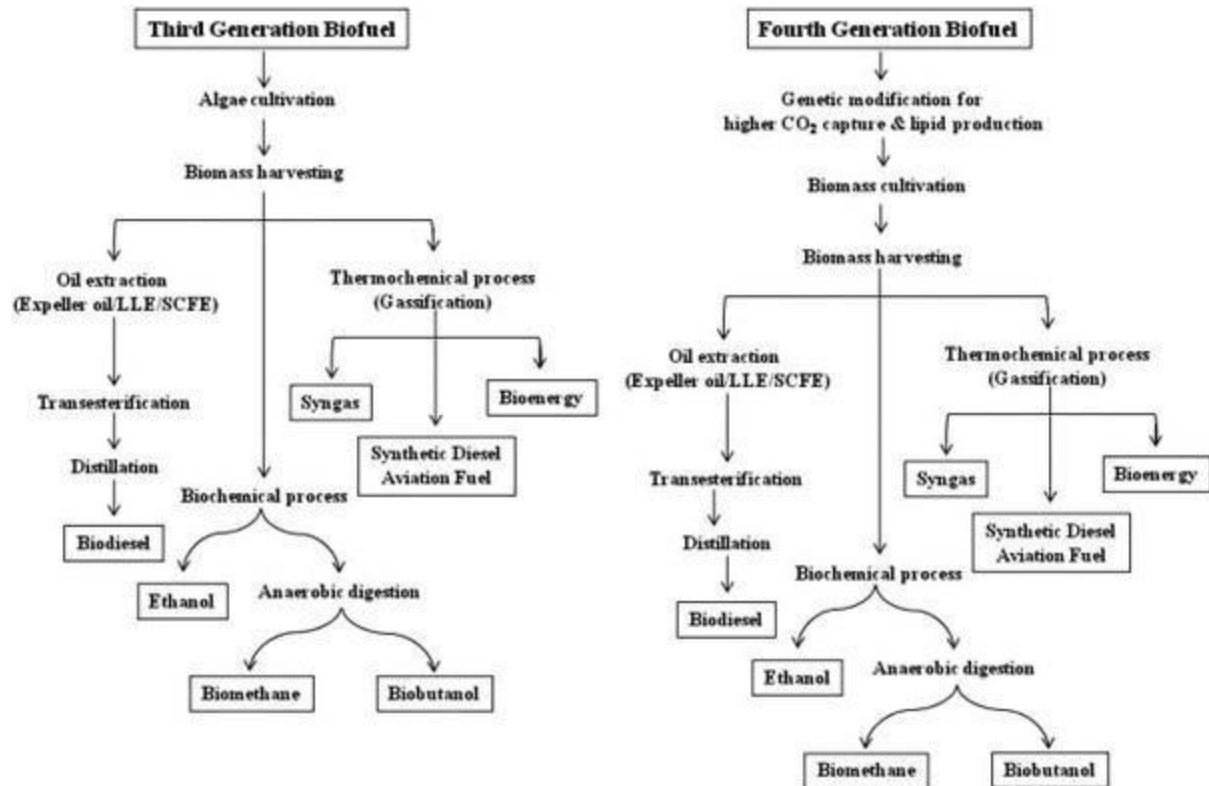## Comparison between Third generation Biofuel and Fourth generation Biofuel

Fig:6 https://www.researchgate.net/figure/Third-and-fourth-generation-biofuels-28_303549322

Results and Discussion:

Third generation Biofuel suitable techniques:

Various steps can be utilized to convert the biomass of algae into energy sources. Some of these include the chemical reaction, direct combustion, and thermochemical conversion. A schematic representation is illustrated in fig: 7 to produce biodiesel and bioethanol using microalgae as feedstock. In order to commercially utilize algae biomass, the by-products should be optimally used. This can be used as nutrients for various animal and human products.
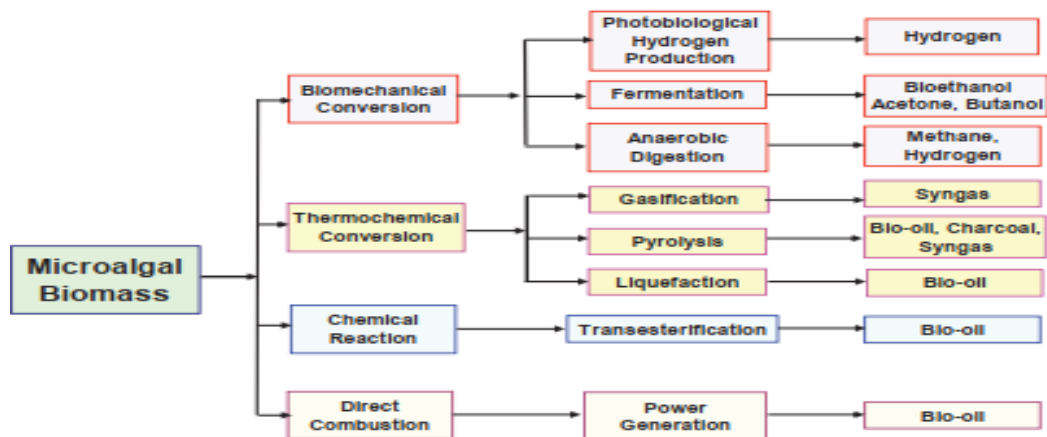
Fig:7 https://www.sciencedirect.com/science/article/pii/S1877705815008656/pdf?md5=
60590a56bb18984122cc1c1a0a9d907c&pid=1-s2.0- S1877705815008656-main.pdf

Advantages Vs Disadvantages of third generation Biofuel:

One of the main advantages of algae is that they can use a variety of carbon sources. It has been suggested that algae could be tied to a carbon-neutral source such as a power plant or industry. This method would allow them to reduce their emissions without releasing any carbon dioxide. However, they also require a high amount of fuel to make their bio-based fuel. This makes algae- based fuel more expensive than other fuel sources. Biogas produced from algae tends to be less stable compared to other sources. This is because their oil is highly unsaturated, which can cause it to become volatile and prone to degradation. Despite the significant progress made in the field of algae bioproduction, there are still many challenges that need to be overcome in order to make this process commercially viable. Currently, the process of extracting algae from suspended forms using centrifugation is very challenging due to its various steps. Although various techniques are available for recovering the algae, they are still very costly. (Mata TM et al;2010)

Fourth generation Biofuels and its techniques:

Fourth generation biofuel production mainly uses genetically modified algae to enhance the production of ethanol. Although it's widely known that algae biofuel can reduce greenhouse gas emissions, the environmental impacts are still very high. It is the result of the development of plant biology and biotechnology. This process involves the use of enzymes and synthetic biology

to convert biomass into energy. This process involves introducing bio-engineered plants or algae to capture carbon dioxide in their various parts. These components can then be used to generate bio-based fuel. The tabular form breaks down the various bioenergy sources according to their generation and explains their energy density, greenhouse gas effects, and their major uses (YaserDahman et al 2019) .

Table 2. Comparison of conventional Fuel and Biofuels

Biofuel	Fossil Fuel	Difference
Ethanol	Ethane/gasoline	Ethanol has half the energy mass of gasoline, which means that it takes about twice the amount of ethanol to get an equivalent amount of energy. But, ethanol produces less amount of poisonous gas such as carbon monoxide than that of gasoline. However ethanol produces more ozone gas as compared to gasoline and contributes to smog. Hence all engines need to be improved to work on ethanol.
Biodiesel	Diesels	Biodiesels have lower energy than regular diesel oil. They are more prone to corrosion in their engine parts than a normal diesel that is designed to intake biodiesel. Biodiesel burns much cleaner than diesel and produces few sulphur compounds.
Methanol	Methane	Methanol has one-third to one-half the energy of methane. It is a liquid, and is easy to transport.
Biobutanol	Butane/gasoline	Gasoline has more energy than biobutanol and can work in any car, whereas gasoline is required without any modification of the engine parts.

Source: https://www.sciencedirect.com/topics/engineering/generation-biofuels

The difference between the fourth and third generation biofuels is that they capture CO2 emissions at all stages of the production process by means of oxy-fuel combustion (Oh et al2018,Sher et al 2018). Although oxy-fuel combustion is not currently competitive, it has been studied as a possible alternative to traditional biofuels production. Its potential environmental advantages are being considered (e.g., carbon storage and carbon negative production) (University of Edinburgh). Nanotechnological solutions can help minimize the costs associated with the cultivation and harvesting of algae(Sekoai et al .,2019). For instance, nanotechnology can provide an energy-efficient method of extracting oil from algae(Pattarkine and Pattarkine.,2012).

Challenges of Fourth generation Biofuel in present situation:

1. High Cost of Production: Even with all the benefits associated with ethanol, producing them is quite expensive in the current market. With low interest rates and the potential profitability of the industry, producing ethanol can still meet demand. If the demand rises, then increasing the supply will require a long-term operation that will be quite expensive.

2. Industrial Pollution: Biofuels are significantly less carbon-intensive than traditional fuel when burned. However, their production is largely dependent on oil and water. Large scale industries that are involved in making ethanol are known to emit large amounts of greenhouse gases. As a result, they are also known to cause water pollution.

3. Global Warming: Biofuels which are mostly hydrogen and carbon burning produce less greenhouse gas emissions than fossil fuels, but they still contribute to global warming. Biofuels can help us reduce our dependence on oil, but they can't solve all our energy needs. Instead, they can serve as substitutes for other technologies.

Advantages of fourth generation Biofuel:
In fourth-generation production systems, crops are known to capture carbon dioxide by storing it in their leaves and branches. This process is then used to convert the biomass into fuel and gases. They use the same feedstock as the third generation biofuels and have the same processing technology. he fourth generation biofuels are processed using thermochemical processes and are coupled to carbon capture and storage (CCS) technologies. This method is believed to reduce greenhouse gas emissions by up to 30%.

RESULTS: With the above facts it's clear that the fourth generation Biofuel produced by genetically modified algae will be the new future in next coming 50-60 decades but for present scenario Biofuel produced by algae is the best alternative source for conventional fossil fuels in transport field. A multifactor optimization strategy was used to improve the lipid pool of Chlorella vulgaris cells. The result was a 20-fold increase in the cell's lipid yield. The oil's stability and its antioxidant properties were also studied.

CONCLUSION: C. vulgaris biomass with 55% lipid content and adequate fuel properties is potentially a renewable feedstock for biodiesel.

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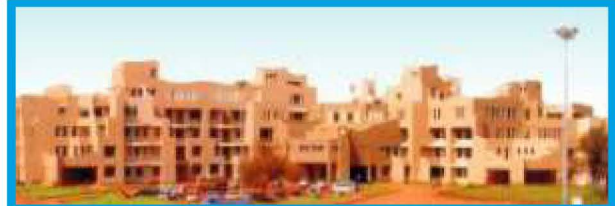
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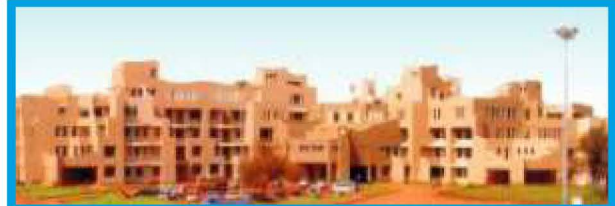SDM College of Ayurveda and Hospital, Hassan

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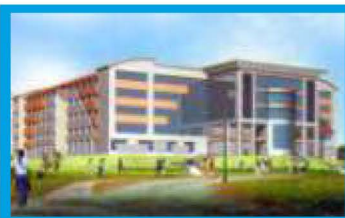SDM College of Engineering & Technology Dharwad

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