

**3<sup>rd</sup> International Multi-Disciplinary  
Conference  
V-CMT 2021**

*Embracing change &  
Transformation:  
Vision 2025*



**Edition- 1**

**ISBN: 978-93-5445-710-4**

**Date  
20<sup>th</sup> February, 2021**

## **INTERNATIONAL MULTI-DISCIPLINARY CONFERENCE**

### **Theme**

**Embracing Change and Transformation:  
Vision 2025**

**20<sup>th</sup> February, 2021**

**Editor- Dr. Rohini Kelkar**

**Published By: Dr. Rohini Kelkar**

**VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY,  
MUMBAI**

**Edition I**

**ISBN: 978-93-5445-710-4**

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## MESSAGE FROM PRINCIPAL

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Vidyalankar School of Information Technology (VSIT), a Commerce, IT and Management college affiliated to University of Mumbai, has always been organising activities pertaining to the current topics of interest to the academicians, industrialists, students, and all other stakeholders of an education system. The theme of V-CMT 2021 - an international multi-disciplinary Conference - "Embracing Change and Transformation: Vision 2025" falls in the same tradition. V-CMT 2021 has encouraged a fair and free participation of scholars in this exercise. We have received many good research papers in various tracks. Even the students have expressed themselves through research papers on current issues.



I take this opportunity to thank everyone who has contributed towards a fruitful organisation of the Conference. I would like to thank our Keynote Speakers Padma Shri Ujjwal Nikam and Shri VV Lakshminarayan and our Expert Panelists- Dr. Pankaj Koinkar, Dr. Chandrahas Deshpande, Dr. Harish Shetty and Dr. Manali Londhe and Moderator of the Panel Discussion Prof. Sindhu Krishnan for investing their valuable time for this conference. I would also like to acknowledge the efforts of the college management, faculty members, the organising committee, and all the other faculty members and staff of Information Technology, Commerce, Management and Arts Departments of VSIT.

I would also like to thank our Session Chairs- Dr. Swagatika Nanda and Dr. Jyotsna Golhar for their valuable feedbacks and encouragement to the presenters. Their critical reviews of the papers presented, and their valuable feedback would enrich authors to upgrade their papers.

Last but not the least, I would like to extend my gratitude to all paper presenters and delegates who have made it possible for us to organise such a One Day International Multi-Disciplinary Conference V-CMT 2021.

**Dr. Rohini Kelkar**

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# INDEX

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SR No.	Title	Page No.
1.	<b>Indian Electric Vehicles Market: The Way Ahead</b> <i>Dr. Poonam Mirwani, Dr. Lakshmi Kavitha</i>	1 – 8
2.	<b>A Review on Factors Influencing Employee Productivity</b> <i>Mr. Sachin A</i>	9 – 13
3.	<b>A study of Artificial Intelligence and its role in Finance</b> <i>Neelam Chandrashekhar Kushvaha</i>	14 – 17
4.	<b>A Study of Remote Working Trends: Boon or Bane Amidst COVID Crisis</b> <i>Dr. Vaneeta Raney</i>	18 – 23
5.	<b>A Study on Customer's Opinion About Buying Health Insurance Plan Online During Covid-19 Pandemic</b> <i>Ritika Malhotra, Dr. Charanjit Kaur Banga</i>	24 – 28
6.	<b>A Study on the Growth of Veganism in India</b> <i>Ms. Prachi Agarkar</i>	29 – 36
7.	<b>A study on the Perception of Learners toward Online and Traditional Learning</b> <i>Dr. Damayanti Reuel Premier, Ms. Ashlesha Maurya</i>	37 – 48
8.	<b>Corporate Social Responsibility for Social Impact</b> <i>Ms. Chitra More</i>	49 – 55
9.	<b>Crude Oil Replacement is a Need</b> <i>Mr. Abhijit Rane</i>	56 – 59
10.	<b>Digital Marketing: Current Trends in India</b> <i>Prof. Rahul R. Jaiswal</i>	60 – 63
11.	<b>Embracing Change &amp; Transformation in Mutual Fund Industry</b> <i>Mr. Amit Shrinivas Dixit</i>	64 – 68
12.	<b>Embracing Change and Transformation in Marketing Management - Vision 2025</b> <i>Ms. Chanchal Kaur</i>	69 – 71
13.	<b>Green Technology: A Contribution to Environment Sustainable Development in India</b> <i>Mr. Shailu Singh</i>	72 – 77
14.	<b>HR 2.0: Reinventing HR Management post COVID-19</b> <i>Ms. Sweta Mishra, Ms. Jaanvi Joshi</i>	78 – 81
15.	<b>Inclusive Growth of India</b> <i>Prof. Ganesh B. Kadam</i>	82 – 87
16.	<b>IoT Based Smart agriculture Monitoring System using Arduino UNO</b> <i>Mr. Ajay Mhade, Mrs. Trupti Kulkarni</i>	88 – 92

<b>17.</b>	<b>IT – A Tool to Accelerate the Pace of Education</b> <i>Mrs. Sanjana Khemka</i>	<b>93 – 99</b>
<b>18.</b>	<b>Microfinance in India</b> <i>Prof. Monideepa Das</i>	<b>100 – 103</b>
<b>19.</b>	<b>Mobile Computing: Issues and Challenges</b> <i>Mr. Rajeshree Mundhe</i>	<b>104 – 107</b>
<b>20.</b>	<b>Mutual Fund: An Ultra-Modern Vehicle of Investment</b> <i>Meetu Chawla</i>	<b>108 – 113</b>
<b>21.</b>	<b>New Methods of Carbon Emission Reduction for India</b> <i>Adnan Shaikh, Vaibhavi Thoke</i>	<b>114 – 118</b>
<b>22.</b>	<b>Perspective of Retailing in Kanyakumari District – A Post COVID 19 Analysis</b> <i>Dr. Lenin John</i>	<b>119 – 124</b>
<b>23.</b>	<b>Plight Female Domestic Helpers – during and post lockdown in Mumbai City</b> <i>Ms. Nandini Jagannarayan, Ms. Iona Hegde</i>	<b>125 – 135</b>
<b>24.</b>	<b>Professional Game Development Pipeline for Students</b> <i>Nihar P. Madhavi, Mrs. Trupti Kulkarni</i>	<b>136 – 141</b>
<b>25.</b>	<b>Realizing the Importance of Technology Post COVID-19</b> <i>Dr. Balasaheb T. Chavan</i>	<b>142 – 145</b>
<b>26.</b>	<b>Role of Ergonomic Factors in Workplace Satisfaction During Post Covid-19: A Study Among the Nurses Working in Super Specialty Hospitals in Chennai</b> <i>Dr. Y. Lokeswara Choudary</i>	<b>146 – 153</b>
<b>27.</b>	<b>Study on Investment Behaviour of Women across Financial Products in Mumbai city</b> <i>Dr. Kavita G Kalkoti, Charmi Shah</i>	<b>154 – 164</b>
<b>28.</b>	<b>The Study of Green Technology in Environment: Sustainable Development in India</b> <i>Mrs. Shravani S. Mandalkar,</i>	<b>165 – 169</b>
<b>29.</b>	<b>Volatility of Indian Stock Markets during COVID-19</b> <i>Mr. Sahil Vinod Singh, Mr. Nihar Ajgaonkar</i>	<b>170 – 173</b>
<b>30.</b>	<b>Women Entrepreneurs in India: Problems and Perspectives with regards to Micro-finance Credit in Mumbai Suburbs</b> <i>Dr. Vimalkumar D. Mistry</i>	<b>174 – 178</b>
<b>31.</b>	<b>Boon and Bane on Energy efficiency in IoT</b> <i>Mr. Rajendra Ramesh Patole, Aashish Apte</i>	<b>179 – 182</b>

## Indian Electric Vehicles Market: The Way Ahead

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### ABSTRACT

The world has witnessed rapid progress of environment friendly electric vehicles market in the recent past. The fact is developed countries like France and UK have already planned to forbid diesel and petrol car sales 2040 onwards and it is anticipated by experts that prospective Europe car market will be all electric even before 2040. India is also transforming swiftly in this sector, many new companies are producing novel models and renovating the car industry. Buyers have started showing more interest towards electric vehicles owing to its popularity in global market. The Indian automobile industry is changing its product line from conventional vehicles to new hybrid models. According to specialists' Indian electric vehicles demand is going to rise at a remarkable rate due to favourable announcements in union budget 2020-21 and evidently by reason of less carbon emission. Many companies have also come up with installing charging points for EVs as a result of substantial growth. Looking at this, the present study aims at reviewing the Indian Automobile Production and Sales Trends in the first hand and to comprehend the Challenges faced by Indian Electric Vehicle Market and Opportunities thereon. The entire study is based on secondary data collected from official websites, journals, and magazines.

**Keywords:** Two Wheelers, Electric Vehicles, Automobile Industry.

### 1. INTRODUCTION

21<sup>st</sup> century has brought a momentum in research and development in the field of ecological protection and consequently growth in demand of electric vehicles has been increased. Global automobile industry is dynamically changing as a result of increasing automation and digitisation. The effects of these two factors can be observed from change in consumer preferences. On the other hand Indian Automobile Sector is also facing disruptions caused by revolutionised technology as the economy dynamics and consumer preferences are contrasting. There is an imperative need to understand the forthcoming changes and reinvent the sector as per global standards and Indian consumer preferences. The transformation will bring a notable change in consumer behaviour as well as it will bring new dimensions to compete and collaborate. The future of automobile sector is revolutionary in India as out of Top 20 most polluted countries in the world 13 are in India so it becomes essential to minimise levels of pollution caused by automobiles. Electrification has brought a makeover in automotive industry globally. It is anticipated that by 2030 electric vehicles are going to share 50% of total automobile sales and it will ominously impact Indian Automotive supply chain.

### **Pull and Push Factors for Electric Vehicles Adaption:**

As compared to other countries Electric Vehicles sales are significantly low in India. A proper mix of pull and push factors could be a determinant of dissemination of EVs in India.

1. Many first world countries have augmented the usage of e vehicles by offering different types of incentives as well as an environment which supports stringent regulations on carbon emissions.
2. Another important reason impacting manufacturing and sales e of e vehicles is high cost of batteries. Advanced research in this segment may reduce cost of battery and on the other hand increase mileage resulting in its availability at reasonable price.
3. Availability of reasonable charging infrastructure for meeting customer daily needs can be one of the major drivers.
4. Pushing affordable e vehicles in the market to encourage customers to buy e vehicles is need of the hour.

### **2. REVIEW OF LITERATURE**

The literature review was engrossed on Electric and Hybrid cars sector. **Chetan Kumaar Maini, (2005)** concluded that EVs are the best solution to reduce cities pollution with many societal and economic benefits by EVs and HEVs use. It also outlined the role Government and worldwide communities played to promote and accelerate EV program.

**Holms et al, (2010)** designated that electric vehicles should be proposed to replace conventional vehicles in the future and they studied how financial incentive and socio economic aspect of consumers increase electric vehicle adoption in many countries.

**Liu and Santos (2015)** found that found that as compared to gasoline vehicles, E Vehicles consume 37.5% less energy and 35% less greenhouse gas emissions.

**MehrdadEhsani, YiminGao, Stefano Longo, Kambiz M. Ebrahimi (2018)** stated that Electric vehicles use an electric motor for traction, chemical batteries, fuel cells, ultra-capacitors, and flywheels. The electric vehicle has advantages of emissions, high efficiency and smooth operation.

### **3. OBJECTIVES OF THE STUDY**

Following are the objectives of the study:

1. To review the Indian Automobile Production And Sales Trends
2. To comprehend the Indian Electric Vehicle Market Challenges And Opportunities

### **3. RESEARCH METHODOLOGY**

The present study is descriptive in nature and entire data is collected through published sources. Relevant websites, research articles, magazines etc. were referred. The period of the study is six years starting from 2014-15 to 2019-20. Data were presented through tables and charts for better and easy understanding.

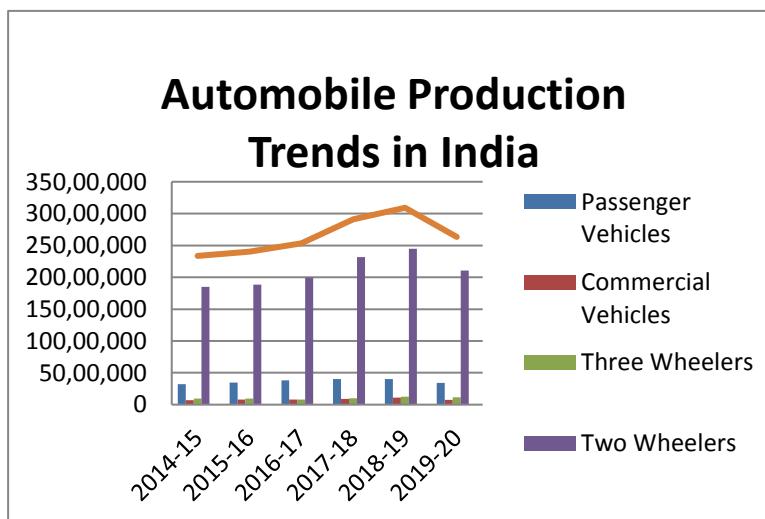
#### 4. DATA ANALYSIS AND DISCUSSION

**Table No. 1: Automobile Production in India**

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Passenger Vehicles</b>	3,221,419	3,465,045	3,801,670	4,020,267	4,028,471	3,434,013
<b>Commercial Vehicles</b>	698,298	786,692	810,253	895,448	1,112,405	752,022
<b>Three Wheelers</b>	949,019	934,104	783,721	1022,181	1,268,833	1,133,858
<b>Two Wheelers</b>	18,489,311	18,830,227	19,933,739	23,154,838	24,499,777	21,036,294
<b>Quadricycle*</b>		531	1,584	1,713	5,388	6,095
<b>Grand Total</b>	<b>23,358,047</b>	<b>24,016,599</b>	<b>25,330,967</b>	<b>29,094,447</b>	<b>30,914,874</b>	<b>26,362,282</b>

\*Only Oct-March 2016 data is available for 2015-16 Source: Society of Indian Automobile Manufacturers

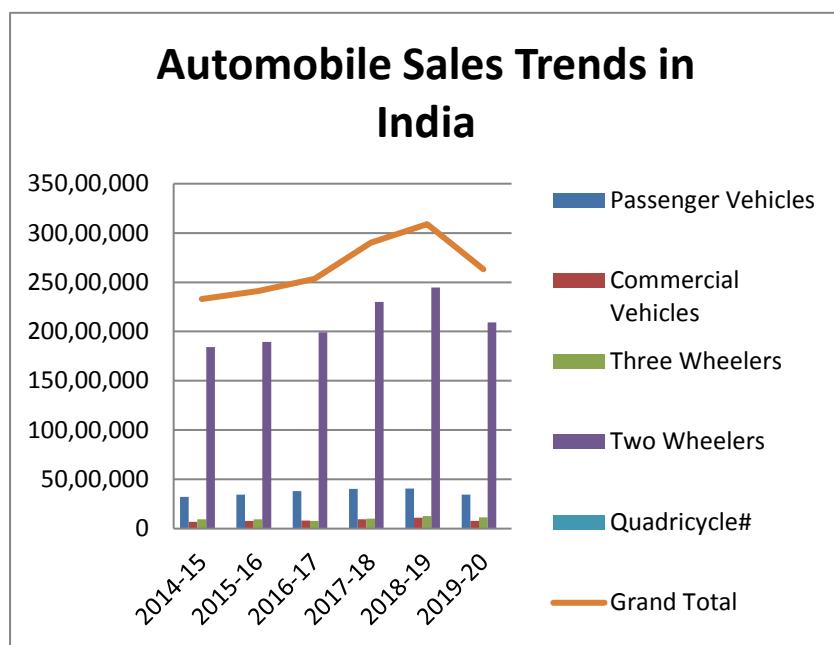
Entire automobile market in India is divided into 5 categories which are Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers and Quadricycle. From the above statistics it is visible that India is a market of two wheelers and passenger vehicles. The industry produced a total 26,362,282 vehicles in 2019-20 as against 30,914,874 in 2018-19, registering a de-growth of (-) 14.73% over previous year.



**TABLE: 2 AUTOMOBILE SALES (Domestic + Exports) TREND in India**

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Passenger Vehicles</b>	32,22,577	34,42,261	38,06,309	40,36,947	40,53,581	34,50,886
<b>Commercial Vehicles</b>	7,01,887	7,88,828	8,22,353	9,53,781	11,07,244	7,78,401
<b>Three Wheelers</b>	9,40,226	9,42,649	7,83,773	10,16,700	12,68,688	11,38,738
<b>Two Wheelers</b>	1,84,33,027	1,89,38,727	1,99,30,015	2,30,15,120	2,44,60,688	2,09,37,992
<b>Quadricycle</b>		334	1,556	1,605	5,027	6,127
<b>Grand Total</b>	<b>2,32,97,717</b>	<b>2,41,12,799</b>	<b>2,53,44,006</b>	<b>2,90,24,153</b>	<b>3,08,95,228</b>	<b>2,63,12,144</b>

Source: Society of Indian Automobile Manufacturers



automakers to reconsider plans and strategies.

Total sales of automobiles have increased gradually over these years. A decline of sales by 14.83% by can be observed in the year 2019-20. It can be due to development of changes in consumer preferences and environmental sustainability to reshape the automotive industry. Changing consumer preferences and technological interferences are transforming the facet of mobility, urging

#### Drivers of Electric Vehicle Market in India:

Regardless of several difficulties and challenges electric vehicle market is growing gradually in India. The factors contributing to this growth are:

- Central Government has launched Electric Vehicles FAME-II Program for all approved electric vehicle models and offered incentives to 7 Million EV's by December 2020.
- The National Electric Mobility Mission Plan (NEMMP) 2020 aim to achieve national fuel security by promoting hybrid and electric vehicles in the country. There is an ambitious target to achieve 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards.
- Low maintenance operations costs for electric vehicles
- Rising crude oil cost as 80% of crude oil requirement is imported

Although, in India's EV market is at a very nascent stage and , currently the challenges seem to outweigh the opportunities in India but the right steps from government by support dynamics for EVs in India at various levels is anticipated to transform it as opportunities are in large numbers in future.

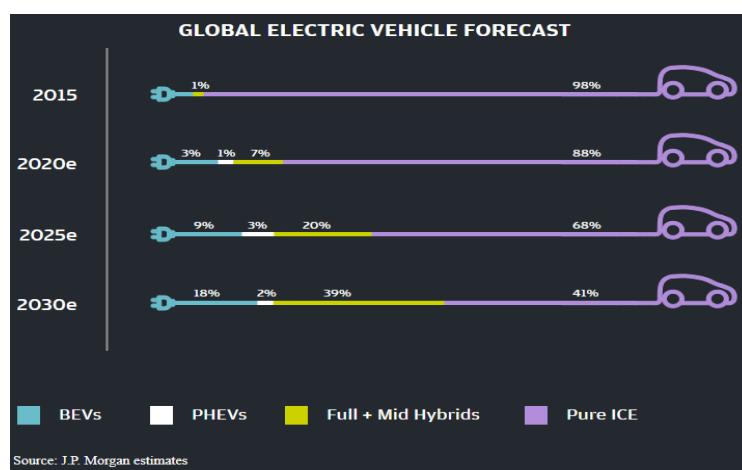
#### Global Electric Vehicle Market:

The car industry is undergoing a radical transformation, with most carmakers agreeing the next 10 years will bring more change than the two previous decades. The next target date cited by automakers as a tipping point is 2025, when everything from materials and fuel to cost and the companies that build cars are set to look dramatically different. In this report, the J.P. Morgan Research team explores the rise of the electric vehicle and what the industry will look like by 2025.

#### Shifting Gears to Electric Vehicles

Automakers are preparing to phase out cars powered solely by internal combustion engines (ICEs) as governments look to tackle fuel emissions. The growth in electric vehicles (EVs) and hybrid electric vehicles (HEVs) is climbing and by 2025, EVs and HEVs will account for

an estimated 30% of all vehicle sales. Comparatively, in 2016 just under 1 million vehicles or 1% of global auto sales came from plug-in electric vehicles (PEVs).



By 2025, J.P. Morgan estimates this will rise close to 8.4 million vehicles or a 7.7% market share. While this jump is significant, it doesn't compare to the kind of growth expected in HEVs - cars that combine a fuel engine with electric elements. This sector is forecast to swell from just 3% of global market share to more than 25 million vehicles or 23% of global sales over the same period.<sup>1</sup> This leaves pure-ICE vehicles with around 70% of the

market share in 2025, with this falling to around 40% by 2030, predominantly in emerging markets.

### Indian Electric Vehicle Market:

Indian automobile industry is one of the largest growing industry in the world, and the sector promises further growth in manufacturing sector driving country's economic growth. It is estimated that more than 30 million vehicles were produced in FY19, reporting a jump of 5.41% from the previous fiscal. This includes passenger vehicles, commercial vehicles, three wheelers and two-wheelers. Since the industry is seen to largely contribute to pollution, the government has been aggressively trying to control the situation. Promoting Electric Vehicles in a core component of this endeavour.

In order to boost the manufacturing of hybrid and electric vehicles in India, Government of India has launched The Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME Scheme) in 2015, under National Electric Mobility Mission Plan (NEMMP) with an aim to promote eco-friendly vehicles in country. It has set an ambitious target of 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards in India, thereby creating wide opportunities in EV manufacturing. So far under Union Government's FAME scheme, incentives worth INR 211.74 Crores have been disbursed, enabling 1,77214 are on roads, saving 21.3 lac litres of fuel and reducing 104553 kgs of Carbon Dioxide per day<sup>3</sup> . The government has determined to curb polluting emissions from automobile industry and envisions switching to 100% hybrid or electric vehicles by 2030.

### EV Opportunities in India & Anticipated Growth:

Recent developments in EV market in India have been positive, with Tata Motors has rolling out its first batch of Tigor EV, as part of the tender for 10,000 electric vehicles floated by the Government's EESL. Similarly, Suzuki and Toyota have teamed up to bring electric vehicles to India by 2021, Ola and Indian Oil have launched the country's first charging station in Nagpur. In a recent report published by FICCI and Rocky Mountain Institute, it has been estimated that India's shift to shared, electric and connected mobility could help save up to INR 20 Lakh Cr in oil imports and nearly 1 Giga Tonnes of carbon dioxide emissions by 2030. The report further states that the sales of 4-wheel EVs are expected to exceed that of internal combustion engines (ICEs) in India by 2027.

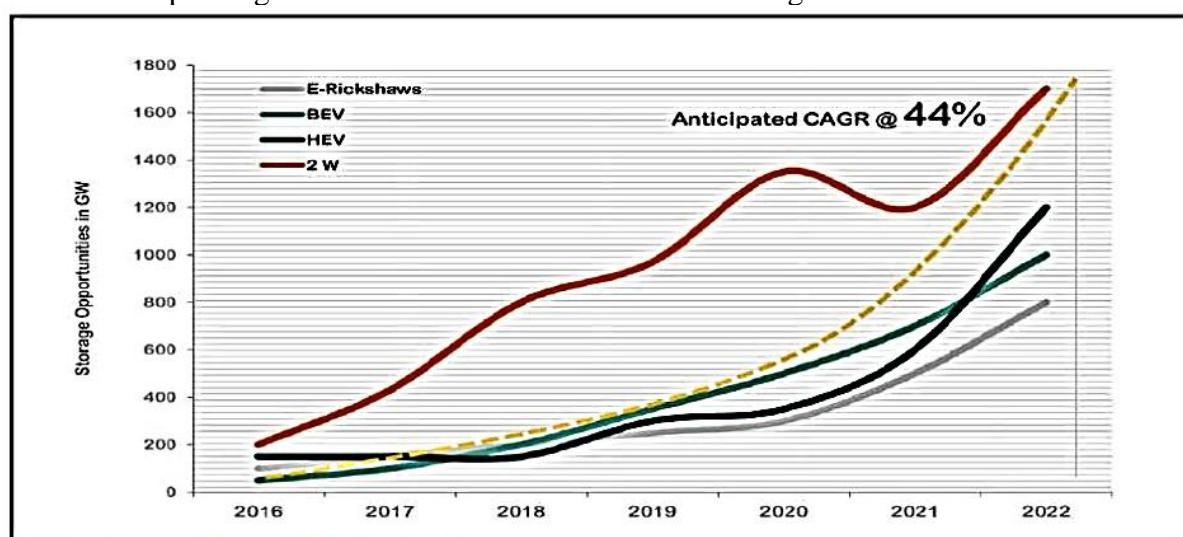
The Electric Vehicle market in India is set to go enormous, and is estimated to be around 80 lacs by 2021, and approximately 5 crores by 2030. Prices of Lithium Batteries are rapidly going down, thereby making EVs cheaper. Presently, average cost of a Lithium Battery is around INR 19,500/kWh (2019-20), which is estimated to go down to INR 9,945/kWh8 by 2022-23. Electric Vehicles Storage Opportunities (in GW) in India is anticipated to grow at CAGR 44% till 2022.

Estimated Annual Market size of EVs in different segments is as under:

Estimated Annual Market size of EVs in different segments in India				
Segment / Year	EV Motorcycles and Scooter	EV Auto rickshaw	EV Cars & Jeeps	Total
2020	73,52,000	6,46,000	26,000	80,24,000
2025	1,40,35,000	23,64,000	15,92,000	1,79,91,000
2030	2,65,14,000	40,72,000	1,59,11,000	4,64,97,000

Source: NITI Aayog and RMI Analysis, November 2017

According to Persistence Market Research report India electric vehicles market is forecasted to expand at a CAGR of 77% in value during 2017 – 2025 and forecasted are By Vehicle Type Forecast India electric vehicle market is anticipated to increase during FY 2018-FY2023 at 37% CAGR , market growth is anticipated on account of increasing government initiatives and growing consumer inclination, concerns over harmful effects of air pollution, and huge investments by various OEMs for developing more affordable premium electric vehicles and passenger cars and two wheelers are the main segments.



Source: Enincon Research. IESA

The technology comprises hybrid electric vehicles, plug-in hybrid and battery electric vehicles. In India Hybrid and battery electric vehicles is expected to dominate the market. A large market share of the battery electric vehicles about 85% in 2025 is expected to be sales of two wheelers in India. The stored electricity is expected to be the most important in India electric vehicles market and is anticipated to dominate .The electric vehicle storage market in India is expected to be 4.7 GW by 2022.

The Indian market for electric vehicles is segmented into series hybrid, parallel hybrid and combined hybrid. Parallel hybrid is the most preferred owing to its advantages above other power train types but this is not included in electric vehicle battery as it involves both internal combustion engine and an electric motor.

### **India The Way Ahead:**

Besides the end-user customer, other key stakeholders who play an important role in India's transition towards EVs are government Incentives and subsidies and automotive value chain industry. The government helps by defining the regulations relating to emission norms, fuel efficiency, strategic intent and direction, exploring incentives and subsidies, and developing a supportive ecosystem. The Indian government's current CO2 emission target based on the Paris Climate Treaty is to continue at 113 g/km by 2021. Aligned with Corporate Average Fuel Consumption standard the fuel efficiency average target is 22 km/litre by 2035. The Indian government also has planned to reduce crude oil imports and indirect dependence on certain trade partners.

The Indian government could focus on following areas:

- The government could set up committees to provide guidance as and when industry stakeholders need any support to achieve their targets. As it drives EV penetration through policy and long term direction, the government could also define its level of participation in the means employed to meet the policies and targets.
- According to an OECD report, India is providing few subsidies, compared to other major markets. Various state governments and cities provide their own subsidies.
- By changing the product mix, building the right service skill sets, improving the performance of batteries and electric vehicles and building scale, the industry can drive the EV disruption in India.
- The charging stations are required for the increased usage of electric vehicles. The Lead acid and lithium ion batteries are used in automotive sectors. The process of charging can take anywhere between 30 minutes (fast charging) up to 24 hours, depending on the specifications of the battery and the charger. At present, there are two main types of plug-in EV charging stations: AC and DC. An AC charging station supplies current to on-board charger and normally offers 8 to 24 km range per 30 minutes of charging. A DC charging station supplies current directly to the vehicle battery and is capable of providing up to 129 km of electric range for every 30 minutes charge.

### **5. RECOMMENDATIONS**

The present study suggests following recommendations to increase EV penetration.

- It is observed that, manufacturers should provide the best and value-added Services with product availability hence companies should try to tap customers by providing attractive financial incentives and offers to boost the sales
- It is also recommended that the companies in association with government, banks and financial institutions should provide vehicle loans to middle class customers with low interest rate to increase usage.
- Today youths are very environment conscious and also decision takers in family decision making. Hence the companies should promote and advertise their vehicles in this regard, companies should give some additional discounts, incentives or special offers for college students who plan to buy an electric vehicle.
- To promote electric vehicle government and manufacturers should increase its awareness among consumers.

## 6. CONCLUSION AND FUTURE SCOPE

Electric vehicles are a means of worldwide sustainable transportation and its usage is increasing rapidly. The Indian government has also started to accelerate the EVs penetration. However, many hurdles should be dealt with for wider and easy adoption of EVs in India. Being a nascent player in EV transportation, the most important barriers identified include state Government Incentives and Consumer Characteristics. All Consumers are enthusiastic to reduce pollution reduction but the various costs is high (purchasing cost, minimum operating cost, vehicle cost, payback period, operating cost, maintenance cost and electricity cost, resale) .hence, a cost-effective vehicle is required for the Indian markets. Participants in industry meets arranged by the Center for Future Mobility in Delhi and Chennai mentioned high acquisition cost as the top restraint to EV penetration. The charging infrastructure, the electric vehicle performance safety concerns and new user anxiety affect EV adoption strongly Thus, in the perception of researcher, penetration pricing strategy is more suitable for Indian automobile sector which has a lot of middle class consumers . This indicates that Indian automobile policymakers must act on it to take advantage of growth in this sector as a lot of national fuel can be conserved by using these electric vehicles along with reduced emissions.

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## A Review on Factors Influencing Employee Productivity

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### **ABSTRACT**

This paper examines to the extent to which monetary and non-monetary incentives can determine employee productivity in an organization. Employee productivity is measured with respect to monetary incentives, Non-monetary benefits, work culture and work environment. In a competitive business world Human resource department plays an essential role in attracting and retaining effective and efficient employees thus, the study helps in understanding the direct and indirect influence of these determinants on employee productivity. Human resource manager not just focus on to fulfil organizational objectives but also help in fulfilment of Employee's personal needs. It is always been a challenging task as a Human resource professional to identify what motivates the individuals in the organizations and what influences their job satisfaction. Rewards are the benefits provided for the employees upon completion of the given task which can be of money, money's worth, gift or certificates. Recent trends have led to significant impact on employee experience, rather than just engaging employees in workplace it is also necessary that the human resource manager creates un-forgettable experience for the employees in the work place which helps in achieving overall job satisfaction for the employees and enhancing organizational culture and performance.

**Keywords:** *Employee productivity, employee retention, Human Resource, Rewards, Motivation, Job satisfaction.*

### **1. INTRODUCTION**

Human resource management practices have an important role in organizational development as well as individual development to achieve overall organizational objectives (Skirbekk, 2015). Human resource functions include planning, organizing, directing and controlling individuals in the organization (Saleem, 2011). planning includes to analyses the labour force and the skill set required to carry out a particular task and to accomplish organizational goal. The information to be collected by the Human resource manager and analysed to understand the present & future requirements by assessing individual based on their qualification, age, skills set, attitude, behaviour and other characteristics of the individual (Pandey and Dubey, 2020).

Organize is to set up the workplace, allocating task among the employees and combining the activities for the achievement of common objectives (Abdullah, 2013). To organize is to place the right people for the right job with the proper workplace to carry out the given task. Directing is also considered as the heart of the management process where is it the duty of the employer to guide, instruct, supervise, influence and assess the Employee's performance (Naveen & Yenugula, 2017). Controlling is to Scrutinize the actual performance of the employees and assess them with the objectives and bridging the gap between where the Employee's stand and where they must be to achieve the organizational goal effectively and efficiently (Waqas & Saleem, 2014). Human resource operative functions include recruitment & selection, job analysis & design, performance appraisal, training and development,

compensation management and labor relations all the above functions play a vital role in carrying out day to day activities of the business (Sorauren, 2000). Recruitment process is identifying the need of the organization and attracting individuals and interviewing them are an essential part of recruitment (Gunawan & Febrianto, 2014).

In contrast, the selection is to select the potential candidate who is most suitable for the job and hiring them and giving the necessary training that is required to carry out the task. Job analysis is to express the nature of the job and identify the individual requirement like qualification, work experience, skills required to perform the job whereas, job design direct at outlining the organizational duties, tasks, and responsibilities to be carried out into single phase for the achievement of the overall objectives of the organization.

## **2. REVIEW OF LITERATURE**

The author Saba Saleem (2011) starts off with the impact and influence of financial incentives on employee commitment. It is always remained as a challenge for Human resource professionals to attract and retain employees in the organization, as the talented individuals contributes to the betterment of the overall performance. Financial incentives have a positive impact on individuals' commitment and loyalty towards the organization. Financial incentives include profit sharing, bonus, employee stock ownership etc. these helps in attracting the individual and retaining them in the organization. The most important Human resource management issue is with the incentive structure. Due to global competition, the ways of rewarding employees have influenced the Human resource department to adapt to the modern rewarding and compensation Management. Individuals' commitment towards the organization leads to an increase his/her performance thereby reducing employee turnover; therefore, the loyalty of employees varies on how well the individual is motivated and satisfied with his work. Maslow's hierarchy is used to understand the individual needs over different stages and the employer has to understand the employee/ individual requirements. Not all the employees are attracted to financial incentives but employees are also attracted to the non-monetary benefits offered by the company.

The authors start off by saying different capabilities doesn't make people different it is the influence of the behaviour which is exhibited at workplace and the ethics of the work. whereas, individual's behaviour describes his/her character, beliefs and values, it is necessary to have positive attitude in work place which will lead to increase in performance of the individual, less absenteeism and increase in motivation and the individual commitment towards organization. Positive influence is created by job satisfaction in the workplace which leads to increase in overall satisfaction in general. This is where job satisfaction comes in and plays an important role, job satisfaction is a combination of work environment, work culture, psychological needs and physiological needs that motivates a person and in turn increase his/her job satisfaction. As we already know not all individuals are same which is also the same with job satisfaction whereas, it is solely the individual perception where he/she being attracted to monetary or non-monetary. Human resource manager has to carry out frequent job satisfaction analysis in order to identify what motivates the employee productivity, and it is a very challenging task taking into account the background of the Employee, cultural characteristics, and the need of the Employee.

The study helps understand the reward system in fast food industry and the effect of monetary or non-monetary rewards. the author starts off by addressing the problems faced by fast food restaurants located in port Harcourt, as they noticed the movement of Employee from one restaurant to another as this was due to the attraction towards other organization

which had led to involuntary mobility. Voluntary or involuntary mobility may also be caused due to Employee not satisfied with the rewards or incentives provided by the organization. In today's world there are lots of emerging business and increase in competition, thus it is a challenging task for a business to retain its Employee and also focusing on incentives and rewards to motivate employees. The author also tells that is it the rewards system that has caused the mobility of the Employee from one organization to other. Reward system play a significant role in retaining and attracting employees.

Richard G. Gunawan & Hendry Febrianto (2014) conducted the study in order to understand the impact of monetary and non-monetary incentives on Employee motivation. The author starts off by telling that employees are the ones who are behind the strategies which are successful and well-executed; thus, it is the duty of the organization/management to understand what drives employees' productivity and how the employees are motivated. In today's world, there are competitors emerging each and every day, thus putting the company in crucial place and it is a great challenge for the Management to retain their employees and motivate them. It is also noticed by many researchers that the success of the company is in the hands of employees so it is the duty of the Management to motivate them and in turn, maximize their productivity. Incentives are the main factor to which any employee can be motivated through, may it be monetary or non-monetary as it varies from individuals and recognition system also influences Employee's satisfaction and increases the performance of the individuals over time.

### **3.METHODOLOGY**

The study has considered 36 journal articles and proceedings pertaining to the topic of employee performance and the factors influencing the same. Each of the article's idea, summarisation, brief conclusion of the author's work forms the crux of the review. The study has considered only a limited number of researches works, however there exist a large data of resources available on the topic both online and offline.

The primary motive of the study is to understand the past and present scenarios related to employee performance indicators. The evolution if any in terms of employee behaviour is expected to be captured. The reviewing follows a pattern of introducing the author's ideas, cumulating them with related ideas, identifying the methodology of the studies conducted and providing a summary of conclusions.

The analysis comprises of the reviews, classification of the different determinants like, demographics which include age, gender, background, followed by monetary and non-monetary incentive, and also the external aspect of work culture and environment. The different determinants are classified to notice the frequency with which each of them appears under the purview of employee productivity. The analysis however considers the most relevant papers, deemed relevant by the author only.

Post analysis and reviewing of the existing work, the paper concludes with the most relevant aspects to help give an insight to the human resource practitioners and professionals a brief understanding about employee behaviour patterns.

## ANALYSIS

Determinant	Frequency	Percentage / Total
Monetary and Non-monetary Incentives	16	44.44%
Demographics	7	19.45%
Work Culture and Environment	13	36.11%
<b>Total</b>	<b>36</b>	<b>100.00%</b>

**Table 1**

*Table showing the various determinants considered for review and their respective importance percentages for better evaluation of determinants.*

The importance percentage is dependent on the article frequencies of this particular study which is limited to a few number

The review has considered a total of 16 papers of the possible 36 which highlight the importance of monetary and non-monetary benefits as the key to achieve employee productivity. This comprises a total of 44.44% of importance while determining the factors to enhance employee productivity. The next factor the effects productivity as highlighted by the frequency of its appearance in the reviews is the work culture and environment. This comprises a total of 36.11% of importance. This being an external determinant, the organizations and work towards making the culture and the work environment friendly and accessible to the employees which in turn fuels them to be efficient. The final factor considered in the study as a determinant is the employee demographics which includes age, gender, ethnicity, etc., has a

19.45% importance and has minimal effect on productivity.

This analysis shows that the organizations if ensure the incentive schemes appropriately and also structure their culture and environment in favor to the employees the productivity can be improved tremendously.

### 4. CONCLUSION

Employee performance and productivity is affected by several factors ranging from employee incentives to the work environment, the review papers directly show that these factors have a direct impact on employee motivation and productivity. In a competitive business world Human resource department plays an essential role in attracting and retaining effective and efficient employees thus, the study helps in understanding the direct and indirect influence on employee productivity. The papers reviewed in this study discusses briefly about the interaction between the various factors that affects individual productivity towards the organization. There has been a significant evolution in the Employee's response to incentives, factors like Age, culture, employee background, ethnicity, work culture and environment has a significant Impact on employees' productivity. Adapting to the changing needs of the employees the Human resource department has become more dynamic and the integral part of the organization. This review paper provides an understanding to the human resource professional to interpret individual employee behavior and provide incentives as per the need. Rewards are the benefits provided for the employees upon completion of the given task which can be of money, money's worth, gift or certificates. Unlike incentives, rewards

are granted by the employers to the employees for the short-term goal achievement where incentives fall under the broader category, which helps in keeping the employees motivated on the long run. Incentives and rewards overall, focus on understanding intrinsic and extrinsic factors of motivation, which has a massive influence on an individual's satisfaction and overall performance. The review papers examine to the extent to which monetary and non-monetary incentives can determine employee productivity in an organization, the studies until now shows that rewards can be an effective motivator to enhance productivity.

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## A study of Artificial Intelligence and its role in Finance

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### **ABSTRACT**

Artificial Intelligence (AI) is the branch of computer sciences that emphasizes the development of intelligence machines, thinking and working like humans. For example, speech recognition, problem-solving, learning and planning. The main aim of this study was to examine the influence of AI in finance. The study of AI in service industry had an impact in financial sector. The best feature of AI is its personalized banking that helps you in managing your accounts by analysing your previous records. The maintenance and production cost of AI is quite high and the software has to be updated time to time to meet the new technological changes. The research was done through secondary method.

**Keywords:** - Artificial intelligence, benefits, disadvantages.

### **1. INTRODUCTION**

#### **What is AI?**

Artificial intelligence (AI) is an of computer science that emphasizes the creation of intelligent machines that work and react like humans. The most commonly used AI application is google search engine. The invention of AI has made human life much easier. AI is used for making smarter decisions in business or any other field. AI has improved the quality of product, efficient use of raw material, saved time ad has provided superior safety.

#### **What is AI in finance?**

Everyone is well known to the term 'Artificial Intelligence' and 'Finance'. But, have you ever thought of artificial intelligence in finance?

AI in finance is how we deal in monetary transactions. It helps to maintain cash, credit and investments accounts.it also stay updated with the real time changes ad then creates customized advice bas on new incoming technology. It not only saves human power but also detects and prevents frauds.

### **2. REVIEW OF LITERATURE**

Kinjal Bhagyesh Patel, Asst. Professor, Dept of management. Vadodara institute of engineering. April 2018,

In her paper titled "Artificial intelligence in finance" have conducted the research with an aim to study AI and its pros and cons in finance. She has studied about the changes made in banking sector due to AI. The author finds that by 2020, AI will have its greatest impact in

both banking and financial sector. And it will also have a positive impact over the competitiveness. The author also concludes that AI has helped banking sector by providing services like smart wallet, personalized banking service, underwritings and many more.

### **3. OBJECTIVES**

- i. To study about artificial intelligence.
- ii. To study about the advance technology used in finance.
- iii. To study its pros and cons.
- iv. To study how it has changed banking sector.

### **4. AI AND FINANCE**

#### **Time Saving: -**

The biggest problem in banks is long queue. Applications like Chatbots solve the consumer issue easily and quickly. Now, people can ask anything and do all their bank related activities from the comfort of their homes.

#### **Personalized Banking: -**

AI based assistants through machine learning is helped to develop customized plans, offers and loan that vary from customer to customer according to their interest, past behavior and credit score.

#### **Quick Resolution Time: -**

AI has made the problem-solving time very quick. This saves both agents as well as customers' time. It is said that 'Chatbots can save at least 4 minutes of a customer service agents time'.

#### **24 Hour Services: -**

A customer requires bank help anytime in a day. So, to solve this issue AI has developed 24 hour services, which assures customer services that solves all queries and problem regardless of time.

#### **Check A Clients Credit History: -**

Nowadays AI finds that many clients fail to pay off their loans. So, to resolve this it predicts their future behavioral patterns.

#### **Better Auditing: -**

AI has replaced manual auditing that is prone to errors and fraud. Manual auditing can lead to missing file or data which can cause heavy losses to the bank or any financial sector. AI analyze each file, while machine learning easily identifies risky files and data.

## 5. DISADVANTAGES OF AI IN FINANCE

### **Expensive: -**

The maintenance and production of AI is high. They are very complex machines. AI consists advanced software programs which require to be updated to meet the changes in technology. In case of critical failures, the procedures to reinstate the system and recover lost codes may require enormous time and cost.

### **Unemployment: -**

The introduction of AI has raised the level of unemployment. Manual work is done through machines which give rise to unemployment. AI can effectively increase the unemployment rate. Study states that “Automation will displace between 400 and 800 million jobs by 2030”.

### **Lack of Creativity: -**

In spite of having so many advantages, AI lacks in creativity. Being a machine, it cannot be creative or think by its own.

### **Cannot Replace Human Resources: -**

Everyone is aware that machines are more efficient than human being. A financial s4ector cannot totally depend on machines as there is fear of cyber risk, frauds.

### **Doesn't Improve with Experience: -**

Human being improves with growing age and experience. But this is not possible with machines. Rather they wear and tear with time. The system has to be updated time to time.

## 6. CONCLUSION

Artificial intelligence is now a technological advancement people need to adapt, but soon it will be normal necessity. AI not only make consumer life easy but also employee's life too. But it also lead to cyber risk, frauds and money laundering. AI driven automation helps to enhances operations, reduce manual errors and let the employees focus on core task. AI also provides personalized banking facilities to make banking experience easy and convenient. Its problem-solving time is less as compared to manual power. It keeps a proper record of cash book, purchase book, inventories. Its 24-hour services have proved to be beneficial for customer. But due to AI unemployment rate has increased. The maintenance charges of AI are very high. Apple acquired its virtual assistant SIRI at cost somewhere around \$200

million. Artificial intelligent is delivered in wrong hands it can create a harm to mankind, if an individual starts thinking destructively.

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## A Study of Remote Working Trends: Boon or Bane Amidst COVID Crisis

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### **ABSTRACT**

Remote working is a fast growing phenomenon that is being accepted as a part of the new normal amid the Covid 19 crisis. Traditional business structures were forced to adopt this structure that was previously only sought as an exception or privilege. The objective of the following research paper is to understand this long prevailing yet underutilized, until recently, area of work culture that is rapidly gaining prominence in the current post pandemic setting. Further, it delves into the advantages and disadvantages of remote working among employees. The research was conducted on the basis of questionnaire and personal interview. The paper further throws light on individual perception of remote working through qualitative analysis and its future trends with the aid of secondary research. Thus, helping to realise the acceptance and general perception of Remote working culture.

**Keywords:** *Remote working, Work from home, covid-19, pandemic.*

### **1. INTRODUCTION**

In light of the COVID-19 pandemic there have been a large number of unprecedented changes in the business and employment sector. Wherein we can see various things happening all around, such as new techniques are being adopted, old techniques are being brought back with new outlooks, etc. Amid the chaos of the pandemic in order to keep things running and being open for business, companies have been training, recruiting, hiring and managing remote workers.

Remote working that had been a dormant feature in many companies suddenly gained importance, when the government imposed lockdown was issued that mandated non-frontline workers to stay at home. This was quickly put into practice, and the companies shifted their workforce to a work from home setting.

This culture was quickly adopted and soon turned from haphazard chaos to a blessing in disguise for companies who found this means of work productive and highly viable. There are companies that have already established that they prefer the working of remote models more than the traditional work structure that was prevalent pre-pandemic and have as a result made a decision to make the shift indefinite for the majority if not all of their employees. A number of new soft-skills criteria has also been tacked on to the list of requisites that companies are looking for at the time of hiring candidates for work, this includes focus, discipline, self-motivation, along with the skill to keep in touch and in communication with one's bosses and colleagues.

## **What is Remote Work?**

It is a work culture that officially enables an employee the avenue to work offset from a traditional office setting. Remote working confers a work phenomenon wherein one does not need a specific place to work in a satisfactory manner and to yield good results.

Remote working cancels the extra aspect, that is, commuting to office every single day to work at a fixed desk, instead employees can work from home or whichever location that pleases them to do their assigned work to the best of their ability and thus achieve their set work aims.

In a remote working environment employees procure a level of freedom and flexibility that would have never been a possibility in a traditional work setting. They have the power to adjust their workload as per their own schedules and suitability such that they can maintain harmony between their professional and personal lives.

## **Who is A Remote Employee?**

A remote employee could be anyone who is employed or works at an organisation but not necessarily in the traditional workplace provided by the company or in the company premises. Rather, this individual is free to work in whichever environment they seek, as long as the work target is achieved opportunely. Their workplace could be their homes, coworking joints, cafes, or even a tent halfway across the world.

### **2. EVOLUTION OF PERCEPTION OF REMOTE WORKING**

Post Covid, going back to ‘normal’ has been put on a back burner, instead, the focus is towards adapting to the new normal at a fast pace seems to be the expected route to proceed.

Remote working as an avenue to work has been around for quite some time now, and there have been those who enjoyed the perks of it permanently or occasionally even pre-Covid, though it is an exceptional event.

Recently, we have been witnessing a potent rise in the remote working culture as a result of the situation that has forced organisations into a corner to adopt it more liberally. Another factor that has added to the rise of the remote work concept is the significant rise in technology and cloud-based softwares and apps, which allow for people across large distances to stay connected in terms of their data and work matter along with communication. It is an expectation that remote working culture as a permanent fixture in organisations is based on its acceptance by the current working population that largely comprises the Gen Z and Millennial population. These are the ones that favor the attitude of working to live instead of living to work.

The COVID-19 premise has pushed companies, employers to make the change towards adopting the remote working structure. Before, they were compelled to do so due to the situation remote working did not hold the most esteemed position in the minds of employers.

It was conceived to be a means to distract, haphazard work, wherein the managers had limited means to track and keep a check on their employees' work.

Majority organizations were forced to shift their work culture to that of remote working thanks to the pandemic outbreak that led to the establishment of social distancing measures in offices and other public spaces. But if we were to take a look at the past and observe one might realize that remote workers have had a bad reputation. This was majorly because many employers believed their workforce would be too easily distracted at home, where their managers couldn't keep an eye on their direct reports.

This naturally leads one to believe that before remote working was basically a means to an end it was not a highly sought after culture of working, in fact it was quite sparse. Work-from-home was an arrangement that was offered to few and far between either as an exception, special arrangement, or as per one's need based situations. Today, seeing and realising its benefits along with the constant advancements in online communication and technology business are approaching remote working with a new outlook. There have been businesses globally who are considering making a permanent shift towards reeling the traditional work model to that of remote working indefinitely even post pandemic.

### **3. BENEFITS TO REMOTE WORKING**

#### **1. Anyplace, anytime work.**

Employees are not restricted to working the traditional 9-5 hours, 7 days a week working structure. They are not held back or burdened to travel long distances due to the geographic location of their workplace. Due to the advancements in telecommunication the requirement of a permanent time and place has become non-mandatory.

#### **2. Day to day travel is reduced.**

It eradicates the need to make the daily commute to office. The employee is free to start their day in a calm and relaxed manner without facing the mayhem of public transport or peak-time traffic.

#### **3. Flexibility, work hours and pace.**

The employee becomes the master of their own time and is able to manage his/her schedule as per their own requirements that suit them best. Thus, allowing them to work at their own pace yielding better and more motivated results. It allows them to maintain work life balance, and flexibility offers them significant freedom to work suitably with self induced deadlines to get the tasks done on time.

#### **4. Cost friendly.**

Remote working allows for one to add to their savings. Such that, a lot of money that would otherwise be used for transportation, food, petrol, clothing or cosmetics are saved.

#### **5. Ensures Healthy Wellbeing.**

Remote workers are the managers of their own time and are hence able to carve out space to incorporate physical exercise to their daily routines, for which they otherwise would not have

had time for. Remote working structure also ensures that you are miles away from a sick co-worker. This also works in case of the opposite side, wherein you are the sick worker that is miles away, giving you the perfect opportunity to take care of your health in a safe space whilst being productive.

## **6. Less Distractions.**

Remote working creates a personal space that is free of interruption and involuntary external disturbances of socialization and office chatter. One can devote their entire focus to their work and get their work done in peace.

## **4. SHORTCOMINGS TO REMOTE WORKING**

### **1. Self-discipline is a requisite.**

In some cases the chaotic work environment could actually be a stimulating and motivating factor to work. When that is eliminated one has to rely on their own dedication and self-control to remain focused on work, this can be a difficult feat to achieve. There are plenty of distractions at home or any external location that can shift one's focus quite easily. Hence, in such cases self-discipline is paramount, one has to be rigid towards their own task and ensure to get it done in a timely and structured manner.

### **2. Workplace socialization is limited or at a standstill**

Remote workers are secluded and often work in isolation. This limits their corporeal social interaction with co-workers and even clients. Yes, technological conversations are active but it eliminates the daily meeting, lunches, gatherings, and gossip sessions which are attributes that add to the office going experience.

### **3. Passed over promotion opportunity.**

Remote working in the long term can make one invisible or faceless, when compared to the ones who are present in the office and make their presence known daily. Here, there is high scope that remote workers might be overlooked or passed over when it comes to promotions or advancement opportunities.

### **4. Symbiotic with technology.**

There comes a constant and irreplaceable dependency to technology, seeing as remote workers have to be in constant contact with the main office they have to be available with their emails, smartphones, laptops and other means of linkages. There also comes a need to be available and to keep up to date on technological adoptions, advancements and trends.

### **5. No Demarcation between personal and professional life.**

Work/life balance could become a joke if not managed properly. Work can feed into one's free time and take over. Remote workers are sometimes expected to be on-call 24/7 and thus can be exploited in the name of work from home by their employers. Hence clear distinctions have to be established early on to prevent this from happening.

## **5. FINDINGS**

A qualitative interview among selected individuals was conducted to scrape out their understanding and take -away on the remote working culture.

Some of the questions and answers received were as follows:

**Q. Do you find Work from home to be an advantage or a disadvantage?**

“It depends on the nature of work. Instead there is a decrease in productivity decreases. Say, in case of daily work from home, be it men or women, now in this present situation can't concentrate more on job due to presence of husband / wife , children, family members. Their work priorities get diversified and thus productivity gets decreased.”

**Q. Has it been useful for your business? How has increased or decreased productivity?**

“The benefit is that employees gain a hassle free work space as there is no commuting cost. No more spending on fuel, no sharing of office space, and no spread of sickness in covid times. But, there are homely distractions when eliminated can overcome the performance hindrances. While work life balance can help to combat this crisis situation.”

## **6. FUTURE OF REMOTE WORKING**

According to a survey from Enterprise Technology Research (ETR), the percentage of employees working indefinitely from home is expected to double in the year 2021. Gartner CFO Survey has discovered that over two-thirds (74%) organisations are in the works of perpetually shifting employees to work remotely post the pandemic.

The Covid-19 pandemic has shaken the work culture of organisations and job market significantly. There has been a paradigm shift of sorts wherein companies have chosen to adopt and keep the remote working culture as a permanent change post 2020's temporary approach to adjusting with the pandemic. This means to sustain in the times of social distancing has turned into a blessing in disguise for a lot of companies who have profited from this work structure. According to an article in Forbes, it is believed that by 2025 close to 70% of the workforce will make the shift towards working remotely for a majority of minimum five days a month. 2020 plants the bud of remote working in the minds of companies globally, 2021 might see the trend of working remotely bloom and rise rapidly.

Major tier one companies have already started to put this idea into practise. Twitter's San Francisco based office has already put it out there that they could be opting to make the shift of operating remotely on a permanent basis. Square, also headed by Twitters Jack Dorsey, has chosen to do the same route, of remote work culture, even after offices reopen.

## **7. RECOMMENDATION**

There are a few recommendations that would be suitable from the remote work culture. These are:

- Take frequent refreshment breaks,
- Have a ready to focus on priority task attitude,
- Ensure to build and sustain relationships which need closeness and time,
- Reset schedule as needed
- Create a to-do list to keep on top of things.

Thus, ensuring a relishing flexibility and productive environment to work effectively. As a result, one will earn a win-win situation for a healthier lifestyle. Modern comforts of home with a dip in productivity can help maintain work life balance correspondingly.

## 8. CONCLUSION

The following research paper helps in understanding the remote working culture and further establish its benefits and limitations. It also throws light on its evolution and prospect as a means of surviving the pandemic as well as a positive change that is here to stay for good.

Major tech based companies including Facebook and Twitter have already embraced the remote working model on an indefinite basis. It is expected that many others will join the bandwagon seeing as the pros of remote working far exceed its cons, especially for employers and companies. It is being witnessed that remote working is evolving from a measure that was used as means to survival is rapidly turning into a welcome norm for many organisations.

While major tech companies seem ready to accept this change in stride, there still remains a lot of uncertainty about which side will rise on the top. Adaptability and operating measures to be adopted by companies would be paramount towards establishing their sustaining themselves in the future market. As we have seen remote working comes with its own set of challenges and shortcoming, the decision now into realise if these are worth the positives that could be reaped off of it.

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## **A Study on Customer's Opinion About Buying Health Insurance Plan Online During Covid-19 Pandemic**

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### **ABSTRACT**

The basic necessity of human being is health . The paper examines the Importance of Health insurance in the customer's mind and customers opinion about buying Health insurance policies online during covid-19 pandemic .The study has concluded that Online sale of health insurance witnessed a higher growth and majority of people started buying health insurance policies during covid-19 online.

**Keywords:** *Health, Insurance, Products, Customer's Opinion, Covid-19.*

### **1. INTRODUCTION**

Insurance has become a highly specialised business with the introduction of specialisation in all the branches of commerce . The loss of human life and property caused by a particular risk is undertaken in exchange for a price fixed in advance . Nowadays Health treatment is very costly .Health insurance is the answer to get rid of medical worries . 40 % of the people hospitalized have to borrow money or sell assets to cover their medical expenses according to the survey by NSSO(National Sample Survey Organization ) . Incidence of increasing diseases such as diabilities, obesity,hypertension ,cardiac diseases to name a few , emphasize the need for health insurance .

### **2. OBJECTIVES OF THE STUDY**

1. To understand importance of health insurance
2. To study the consumer behavior towards buying health insurance plan online during Covid -19 pandemic

### **3. REVIEW OF LITERATURE**

1) Harinder Singh gill and Pooja Kansra-“Prospective growth of health insurance in India :Trends and challenges” , Pacific Business Review International Volume 7,issue,july 2014 ,they have analyzed the health insurance growth in India, effect on number of policies to number of claims, number of claims state wise and disease wise claims using statistical tools. It is necessary that public and private health insurance companies should generate innovative ideas to improve awareness among customers regarding health insurance . In the way of health insurance there are huge opportunities despite of all the challenges faced by insurance sector . Making use of IT tools, new distribution method , marketing strategies to create

awareness about health insurance and high commission on sale of health insurance can be used to widen the scope of health insurance industry for a longer period .

2) Navneet Dubey - “ Health insurance online sale spurts up to 30%, offline sales fall due to coronavirus impact” , The Economic Times e paper , Apr 11, 2020, He has analyzed that the demand for health insurance policies has seen a huge spurt during COVID-19 Pandemic . It seems that with the increase in number of Covid 19 cases in India ,the people have got more awareness about the importance of having Health Insurance.The Head of Health insurance - policybazaar.com Amit Chabba witnessed a growth of 20-30 % in 25 days in a span of March 6 to March 31 as compared to February month. “More precisely the policies issued in March were approximately 45000 as compared to approximately 36000 issued in January and February .It is observed that Covid –19 insurance policies queries have increased but from sales prospective , Sale of health insurance plan is much as compared to Covid -19 plans .

#### **4. IMPORTANCE OF HEALTH INSURANCE**

Health insurance can be important for the following reasons :

1. It is safe investment option and Means of savings
2. For the benefit of insured it closely connects hospitals, insurance companies , TPAs and policyholders.
3. Security is provided to human life which is of prime importance to any individual .
4. It provides Quality access to healthcare
5. It is a safe investment option
6. Helps in minimization of unforeseen losses
7. Human life which is of prime importance to any individual gets security .
8. Contributes towards leading a stress free life .
9. Contributes in reduction of tax liabilities and act as an tax saving instrument .
10. Solution for uncertainties and risk that are prevalent and ever pervading in human life.

#### **5. TYPES OF HEALTH INSURANCE**

##### **1.Family Floater Health Insurance :**

The coverage is offered to all the family members, including spouse, children, parents, and other dependant members at a single premium in Family Floater insurance . Family floater plan is a good option if you have small kids or have family members who do not have any serious health issues as the chances of exhausting your sum assured as lesser . The policy will cover all the members of a the family under single sum assured . If elderly members or someone with severe health conditions then family floater plan might not work out. In that case individual health plan would be a better option . On the basis of age of the eldest family member the premium is decided.

2.Critical Illness Insurance: Threatening diseases such as cancer ,kidney failure, paralysis, stroke etc is covered under critical illness policy . Such conditions might require multiple hospital visits over a long period of time . At the time of policy purchase the total number of illnesses that are covered are specified . Compensation for loss of income is offered in case of diagnosis of any life threatening health conditions .

### 3. Hospital Daily Cash Benefit Plans:

A lump sum amount of each day of your hospitalization is covered under hospital daily cash benefit plan. Additional expenses can be insured that are not covered by their basic health insurance plan. Daily hospital cash plan can be taken as a rider or as a standalone cover.

### 4. Senior Citizen Health Insurance Plans :

The people above the age of 60 years get the benefit of Senior Citizen Health insurance plan. Extensive coverage benefits usually makes the premium higher. To ensure adequate medical coverage in their post retirement years it is better to buy a senior citizen plan for your elderly parents. You can also avail tax benefits on the premium paid under Section 80D.

### 5. Group Health Insurance :

Employer or a company basically provides Group Health Insurance to its employees. The policy features are also not that extensive and is offered for a limited sum insured. Other family members can get coverage by paying an extra premium. Once the employee will leave the organization the policy will get terminated. Buying a separate health insurance plan is better than to rely on your group or corporate insurance plan.

### 6. Individual Health Insurance :

Coverage on an individual basis is offered in individual health plan. Other members like children, parents, spouses can be added by paying an extra premium. Every individual's age, medical history and respective sum insured will decide the amount of premium to be charged. Single individuals can buy an individual plan for yourself and your spouse and enjoy the insured sum amount on individual basis. The premium for individual insurance is higher than the family floater plan.

## 6. RESEARCH METHODOLOGY

Sample size : Sample size for this was 50 people from Mumbai city.

Data collection Methods : Data was collected primary sources Primary data is collected through questionnaire method:- Detailed questionnaire was prepared for the customers opinion on buying health insurance plan online during covid -19 pandemic.

## 7. DATA ANALYSIS AND INTERPRETATION

Customer's opinion on buying health insurance plan online:-

76% of the respondent said that they have purchased the health insurance plan online during covid 19 pandemic and 24% said that they did not prefer to buy health insurance plan online due to lack of technological knowledge and security reasons.

(Graphical presentation is shown in figure 1)

Total Customers	50	100%
YES	38	76%
NO	12	24%

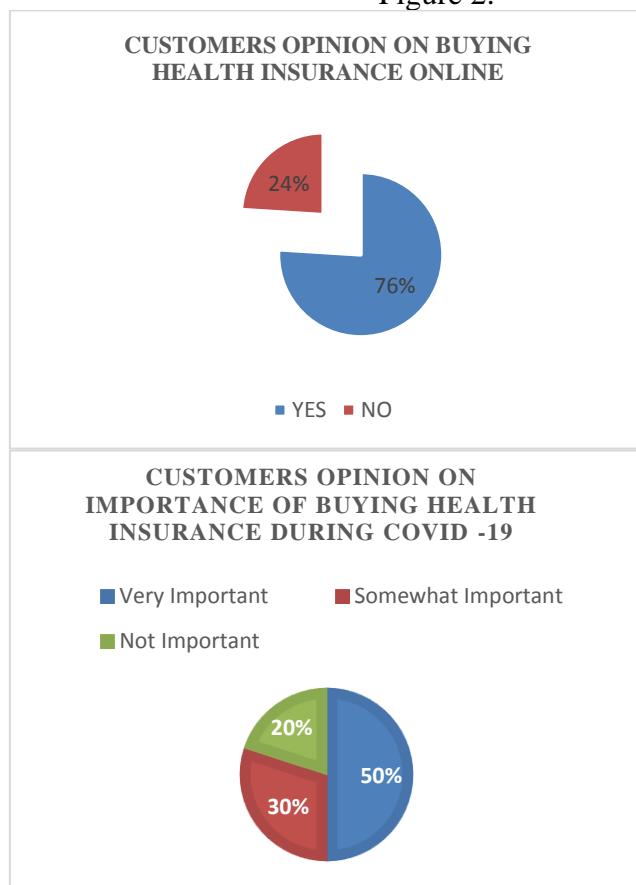
Customer's opinion on importance of buying Health Insurance plan during Covid-19 pandemic:-

50% of the respondents said that buying health insurance is very important. The pandemic has definitely accelerated awareness about importance of health insurance policy. 30% of respondents said that it is somewhat important to buy health insurance plan to provide a security to family members. Whereas 20% of the respondents said that it is not important to buy health insurance plans.

Total Customers	50	100%
Very Important	25	50%
Somewhat Important	15	30%
Not Important	10	20%

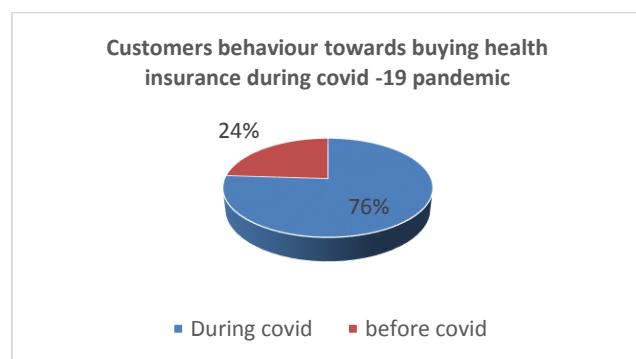
Figure 1:

Figure 2:



Majority of the respondents i.e 76% said that they felt the need to buy Health Insurance policies online as a need against the uncertainty during the Covid -19 pandemic .With the increase in the number of Covid -19 cases the sale of health insurance saw a huge spurt . Whereas 24% said that they don't prefer to buy health insurance policy due to cash crunch ,lack of job security and digitalization.

Figure 3 :



## 8. FINDINGS

The study showed that majority of the people are more aware about health insurance in the wake of Coronavirus pandemic . Health Insurance has now become a product that consumers likely to buy without the need for a big sales push . Around 65% of the people said that health insurance can play an important role in covering the hospitalization cost,followed by medical test, medicines and quarantine cost. 35% of the people said that they don't prefer to buy health insurance . Before the Covid -19 pandemic only few people were interested in buying health insurance to cover the new age diseases but now majority of them consider health insurance as a necessity

## 9. CONCLUSIONS

As per analysis,it is observed that demand for health insurance policies has seen a huge spurt during Covid-19 pandemic . Generally every year in the month of March the health insurance witnesses a higher growth in sale of health insurance policies because people prefer to buy health insurance policy to save tax. Covid -19 has impacted health insurance growth . Online sale of health insurance witnessed a higher growth in sale of health insurance .

Scope for future Research :Further, the researcher can compare the customer's opinion on health insurance plans provided by different insurance companies .

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## A study on the growth of Veganism in India

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### **ABSTRACT**

Vegan diet is a life style wherever one restricts to solely plant based food. They abstain themselves not simply from meat however from dairy and other product obtained from the other living creature. In recent times there has been a major rise within the individuals following veganism largely because of influence from the western world or simply a health fad. Additional individuals have started changing themselves from non-vegetarians or vegetarians to vegans. Some individuals follow veganism for spiritual benefits too, and veganism has been quite simple in recent times. The factors conducive to the expansion vary from animal welfare, climate change, health considerations, social media influences or ethical reasons. We've witnessed abundant availability of vegan substitutes creating it much easier to be a vegan particularly in a metropolitan town. Vegans in India face problems as India is obsessed with dairy and its rather difficult to convince Indians why an individual has set to abstain from dairy. The paper aims to study and explore the elements of the factors that have lead a niche community's growth in a vegetarian nation.

**Keywords:** Vegan, Veganism, Diet, Lifestyle, Food, Health, Animal welfare

### **1. INTRODUCTION**

*Veganism is a way of living which seeks to exclude, as far as is possible and practicable, all forms of exploitation of, and cruelty to, animals for food, clothing, or any other purpose.*

Vegetarian diets eliminate meat and fish, but commonly allow eggs and dairy products. Veganism takes this idea to the next level, cutting out every item of animal origin. So vegans avoid any food made with animal flesh, dairy products, eggs, or honey. Veganism is currently defined as a way of living that attempts to exclude all forms of animal exploitation and cruelty, be it from food, clothing, or any other purpose. The word vegan was initially outlined as a diet freed from animal-based foods. Nowadays, the word's meaning is usually extended to refer to non-food products—such as clothing, cosmetics, and medication that are made without animal-derived substances. Vegans additionally object to exploitative uses of animals, from animal testing to rodeos to zoos and dolphin shows. You'll be able to use the word vegan to spot a sandwich, a car seat, a shampoo, or an individual. Given the word's flexibility, seeking a correct and uncontested definition inevitably produces disagreement. There has been a drastic increase in the number of individuals adopting veganism all round the world and in India.

India has always been a vegetarian country, there's been an increase within the Indian Vegans since 2017 and is predicted to grow additional by 2025. a major quantity of Indians has already tailored the vegan lifestyle. There are numerous factors that have contributed to the expansion of Veganism. These factors embrace Health advantages, Animal welfare, increasing awareness of environmental impact of animal Agriculture, impact of social media and celebrities.

## **2. OBJECTIVE**

1. To Study why Indians are adopting to vegan lifestyle.
2. To understand the reasons that influenced people to turn vegan.
3. To gain an understanding of the benefits and limitations of being a vegan in a vegetarian country like India.

## **3. LITERATURE REVIEW**

Veganism is an all-encompassing way of life, a philosophy which aims to reject mainstream cranium ideology (Joy 2010) with a “renunciation of anthroparchal socialisation” (Cole and Stewart 2014, p. 151).

Veganism is a philosophy in which adherents take no part in the exploitation of animals. Veganism has always taken the “suffering and slaughter of animals [as] the starting point” (de Boo 2014, p. 6) and fighting against the exploitation of animals remains a principle motivation for veganism. However, the identity and ideology of veganism has expanded in the mainstream to no longer being exclusively concerned with animal advocacy.

Health is one of the first aspects that people look at when deciding to become a vegan. Common health reasons are weight, cholesterol and high blood pressure. Secondly, environmental factors also play a strong role in becoming a vegan. Food production affects the environment based upon the agriculture method used (Leitzmann, 2003). “Research shows that vegan diets are well suited to protect the environment, to reduce pollution, and to minimize global climate changes” (Leitzmann, 2003, p. 657S).

There are many reasons behind the veganism: moral (the injustice towards animal, animal suffering), health/physiological concern (human dental and digestive system are unsuitable for meat), food production issue (meat industry has bad effects on the environment), religious/spiritual (a mean to purify the soul/ control one's appetites and sexuality, Christian's encouragement to stay vegan in Past Over period – but not compulsory). In term of the attitude toward veganism, there are plenty of articles which debate on how a vegan diet can be healthy, how environment-friendly, animal-friendly and supporting for living equality. (Beezhold, Radnitz, McGrath, & Feldman, 2018; nutriciously, 2017; Ofei, 2017; Scott, 2017; The Vegan Society, n.d.).

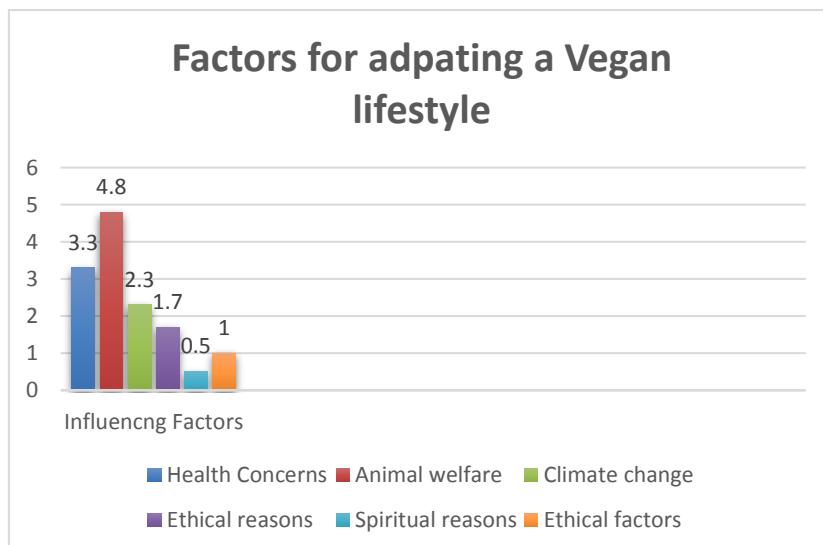
#### 4. RESEARCH METHODOLOGY

The Research Methodology for this study is Primary Research. The sample size is 67, who represent the population of Indian vegans. The main subjects are young Indians (18 – 35 years old) residing in Mumbai, India. The research method is survey, semi-structured interview, non-experimental observation and narrative background story to provide a more comprehensive perspective about the consumer experience. The sample size representing the population of vegans in our country has been chosen by convenience method.

#### 5. DATA ANALYSIS

Majority vegans believe they are gaining something in life by abstaining from meat and dairy. They do not feel they are losing out on something or sacrificing something in their life. The data received from our sample size conveys that majority of the vegans have adapted this lifestyle out of concern and welfare of animals. However, many of them have adopted veganism simply for health concerns and out of a desire to be healthy and fit. They believe the human body is meant for consumption of plants only and no other living beings. Majority of them confess they feel better lighter and healthier than before. Many have found to cure obesity, diabetes, blood pressure, PCOS, PCOD, immune disorder and many more.

It has also been seen that there is a spreading awareness about climate change. The animal husbandry and dairy industry are one of the major contributors of climate change as deforestation for these industries triggers global warming. Which has induced people to do their small bit for the society. Documentaries on animal cruelty and climate change have been a major agent in spreading awareness.



Analysis of my interview and survey demonstrate interest in animal welfare and adapting veganism:

*“I want to live a better moral life without causing harm to animals and ensure animals live a healthy and cruelty free life”*

*“I couldn't turn my back to the realities of Dairy Industry I saw in certain documentaries. After understanding the process and learning about the abuse and cruelty involved, I couldn't consume a single drop of dairy milk”*

*“Watching and reading more about the animal agriculture only made me realise how much good I was doing for my body if I turned vegan and that I was not contributing to climate change”*

*“When I realised that the top most reason for pollution was animal agriculture it just shocked me because the stats and facts were unknown.”*

*“I feel all animals deserve to be liberated from sufferings caused by humans. I felt guilty as I consumed animal products in my life.”*

*“I turned vegan after watching PETA videos.”*

*“I ran into footages taken in dairy farms in India and was really shocked to know that cows are slaughtered after leaving the farm.”*

Analysis of my interview and survey demonstrate peoples interest in improving their health was also a major factor of adapting the lifestyle. Many of my participants have cured major health problems by going vegan. Being a Vegan was difficult a decade ago, as the concept was much familiar back then. Today it is easier being a vegan due to the widespread awareness of the concept and the availability of substitutes.

## **6. FINDINGS:**

### **6.1 Ethics**

Ethical vegans powerfully believe that each one creatures have the right to life and freedom. Therefore, they oppose ending a living being's life merely to consume its flesh, drink its milk, or wear its skin — particularly as a result of alternatives are out there. Ethical vegans also are opposed to the psychological and physical stress that animals could endure as a results of modern farming practices.

Many vegans speak out against the farming industry's practices, like the grinding of live male chicks by the egg business or the force-feeding of ducks and geese for the *foie gras* market. ethical vegans could demonstrate their opposition by complaintive, raising awareness, and selecting products that don't involve animal agriculture.

## 6.2 Health

Some individuals opt for veganism for its potential health effects. It's been ascertained that discarding dairy has multiple benefits on the body. Plant-based diets could scale back your risk of cardiopathy, kind two polygenic disease, cancer, and premature death. Lowering your intake of animal products could likewise scale back your risk of Alzheimer's illness or dying from cancer. (6Trusted supply, 7Trusted supply, 8Trusted supply, 9Trusted supply, 10Trusted Source). Some additionally opt for veganism to avoid the aspect effects joined to the antibiotics and hormones utilized in modern animal agriculture. Finally, studies systematically link vegan diets to a lower weight and body mass index (BMI). Some individuals could opt for these diets to lose weight.

## 6.3 Environment

People may additionally opt to avoid animal produce attributable to the environmental impact of animal agriculture. A 2010 United Nations (UN) report argued that these products usually need additional resources and cause higher gas emissions than plant-based choices. These chemicals are thought-about the 3 principal greenhouse gasses concerned in temperature change.

Animal agriculture drives eighteen of world greenhouse emissions – and sixty-three of India's total gas emissions from agriculture comes from eutherian farming. additional data concerning the water and land-intensiveness of eutherian farming has more raised the alarm amongst Indian shoppers, particularly as India is one in all the seventeen countries most in danger of facing acute water shortages thanks to temperature change. Additionally, animal agriculture tends to be a water-intensive method. Animal agriculture can even result in deforestation once forests areas are burned for cropland or pasture. This environment destruction is believed to contribute to the extinction of assorted animal species.

Today there exists numerous documentaries on on-line streaming platforms that have bought the dark aspect of animal husbandry and dairy business on the forefront. Several of my participants have aforesaid that watching these documentaries are a life changing experience. Some additionally claim that these documentaries induced them adapt a vegan lifestyle. One will fine documentaries named *The Game Changers*, *Cowspiracy*, *What the health*, *Okja* and lots of additional.

## 6.4 The factors that result in growth of Vegans in India

India could be a country with a protracted history of vegetarian diet, but have undergone urbanisation and population growth. There has been a continuing Westernization and so the demand for animal protein has been on the increase. However, Indian consumers currently appear to be creating the shift towards plant-based diets.

**Consumers in India eat way less meat than alternative countries:** Despite India being related to diet, the bulk of Indians 71% do consume meat. whereas that's the case, most Indians don't eat tons of meat compared to the common American consumer, which can create the plant-based transition that much easier. Whereas per capita consumption of meat within the U.S.A. stands at around twenty-five kilograms, India's per capita consumption of meat is four kilograms, creating it the second lowest meat consuming country within the world. Majority of the population follows Hinduism that utterly eliminates the consumption of beef altogether. the consumption of red meat in India is extremely low as compared to the remainder of the globe.

**Easy Veganisation of Indian food:** Cereals, legumes, grains, pulses, sprouts and vegetables, all of those ingredients are usually found in traditional Indian dishes and most Indians have these in their kitchen pantry. However, they're additionally staples in vegan diets and supply a good supply of protein and fibre. several Indian dishes tend to already be plant-based too, like our everyday staple food of *roti sabji dal & rice*. it's easy straightforward easy a basic Indian dish vegan by avoiding ingredients like paneer, butter or cream and work it with vegan alternatives like tofu, coconut milk etc.

**Easy availability of vegan substitutes:** Numerous Indian food corporations are creating vegan substitutes for cooking that has created vegan cooking easy. consumers will realize vegan plant based milk, cheese, and additionally plant based proteins. In metropolitan cities like Mumbai, Delhi, Bengaluru and Pune there are cafes and restaurants having a frenzied vegan menu.

India's initial plant-based chicken start-up GoodDot has many locations across the country. The chain provides all-vegan versions of classic Indian dishes still as international nourishment fare, with several dishes already reaching value parity with its non-vegan competitors, like KFC and McDonalds. Another home-grown plant-based complete Goodmylk, on the other hand, is additionally creating vegan food accessible and reasonable to Indian shoppers by making a line of dairy-free milk, curd, butter and salad dressing. With affordability and accessibility remaining the largest obstacle preventing Indian shoppers from creating sustainable purchasing choices, food techs delivering these solutions can help drive mass change.

**Awareness thanks to social media & Internet:** These days you'll realize in numerous vegan recipes on the web & social media. Bloggers and social media influencers promoting veganism has additionally influenced the Indian youth. These vegans are building community by connecting with one another over Facebook groups and share life experiences to push veganism. Majority of my participants enjoy following these social media influencers, watching their posts, videos and reading blogs.

## 6.5 Struggles of Indian Vegans:

One of my participants stated, “*People think of it as a Western diet or a diet fad.*”

**Substitutes:** The availability of vegan substitutes in Indian markets is very low, expensive and not feasible to the middle class man. These products are usually available in big food retail stores. It’s usually not available at your local *kirana* store which makes the accessibility a problem. While their availability in supermarkets and on the Internet is usually limited to metropolises, it has allowed vegans to explore a variety of options.

**Eating out:** It is stressful as people are not aware about veganism. They don’t understand why you aren’t fine with just a little bit of cream in your food. Vegans have to be very specific in giving instructions while ordering food in a restaurant. There is a lack of understanding amongst people here which makes socialising with non-vegans a trouble

**India’s dairy obsession:** From breakfast to dinner, you’d find milk in your morning tea, eat some form of curd for lunch, nibble on cheeses and pour cream in your *daal*. Mothers swear by a glass of milk a day for its numerous benefits and it almost seems impossible for North Indians to avoid ghee, a clarified butter made from milk fats. The dairy culture exists since eternity. “We worship Lord Krishna, a *Gwala* (milk man)” Our deities too are offered raw milk and milk products like ghee or sweets. Indian families tend to pressurise these vegans to consumer dairy as Indian culture has predominantly been a dairy consuming one. No one can be coerced, but perceptions could be altered by inciting dialogues.

## 6.6 Suggestions:

The vegan community in India is a niche community is slowly and gradually expanding. We have witnessed a growth of vegans since a decade as it is much easier being a vegan today than it was in 2005. The research suggests why Indians have been adapting this rather western concept of veganism. Nonetheless, the rise of veganism in India, more than anything, would rest upon debunking myths about the inaccessibility of this lifestyle.

## 7. CONCLUSIONS

“Veganism faces a challenge in terms of changing people’s perceptions.” Vegan activists often hear things like, ‘It’s too elitist’, ‘It’s not my cup of tea’, ‘What about the poor farmer whose livelihood is dependent on selling milk?’, ‘I love milk’, ‘I love cheese’, and so many more things.” the concept eventually boils down to a matter of choice. the appeal of a plant-based diet could get another substantial spike in the near future. With or without such a trigger, a major shift in the way Indians think about the food they eat and how it is produced is underway – driven by an increasingly networked, savvy millennial generation who realise that the certainties of the world they are growing up in are deteriorating fast. Veganism is no longer niche or difficult and, as industrial agriculture bends to adapt to consumer demand and its own crisis of sustainability, it is only going to get more accessible – and more popular.

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## A study on the Perception of Learners toward Online and Traditional Learning

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### ABSTRACT

Learning is a lot more than remembrance and data review. Profound and dependable learning includes understanding, relating thoughts and making associations among earlier and new information, independent and basic reasoning and capacity to move information to new and different contexts. Traditional learning involves the teacher who communicates in-person with a group of students in a brick-and-mortar facility. This method of learning typically involves students gathering in physical classrooms during a certain timeframe with the purpose of learning about specific topics or to gain specific hands-on training and experience. Online learning takes place over the internet. It is a form of distance learning. It's interchangeable with the term e-learning. A Learning Management System typically stores the training content, which is accessible anywhere and anytime. Research study tries to understand perception of learners toward online and traditional learning. Study pointed out that, both the learning methods has its own advantages and limitations. Information was collected from undergraduate and graduate students. During this pandemic online teaching and learning was very much helpful. Respondents pointed out that none of the method is superior or inferior because of its peculiar characteristics. Finally, it was concluded that, blended learning can be used instead of only traditional or online. Blended learning will be able to fulfil requirements of diverse learners and will be more effective.

**Keywords:** Traditional Learning, Online Learning, Blended Learning, Learners, Understudy

### 1. INTRODUCTION

Brick and mortar are the traditional way to attend college, with students coming to campus and attending class in physical classrooms. Being as yet the most predominant type of seeking after an instruction, physical education permit understudies to interact with each other and examine with educators face-to-face, this is the thing that keeps this type of customary learning still so much in demand, as understudies can speak with others or pose inquiries by and by to the instructor. They feel more mindful with respect to their tests, towards each deadline that comes their way and focus on participation.

This sort of college lifestyle doesn't exactly measure up for the mentality of some different understudies. Participation, area, absence of adaptability and campus life are actually the segments that they find upsetting; along these lines, they decide to pull out. They realize that them being late or missing is something that can be held against them later on in tests, or on the other hand possibly the timetable of lecture doesn't consent to their low maintenance work

and makes their participation in the class outlandish. Fortunately, technology in education made different choices accessible to them.

Web based learning is known as the instruction that happens over the Internet. Regularly alluded to as "eLearning", or "distance learning" – web-based learning includes the umbrella term for any learning that happens across distance and not in a conventional study hall. Colleges these days use LMS (Learning Management Systems, for example, Moodle, Blackboard, or similar software as a replacement for classes. Assignments are submitted on the web; conversations are in a discussion design and emailing teachers is expeditious. This incredible learning technique joins comfort, more prominent adaptability, and more noteworthy availability. Lessons can be finished around your timetable without venturing out from home or moving relying upon the downpour, day off, daylight.

Indeed, even the expenses are more limited as most online projects cost not as much as brick and mortar. That is on the grounds that classroom and board, parking, books and attendance fees are not necessary. Online learning has many advantages like flexibility, no need to commute, customized learning experience, a wide selection of courses, resources are available from anywhere and everywhere, time and cost effective etc. Still, students get the same benefits and level of knowledge as you would from traditional classrooms. Some of the cons of online programs may include an absence of determination, low consistency standards and less social cooperation. This is most likely the reason why fewer degree choices are offered online than through traditional learning.

Distance education permits admittance to classes at whatever point and any place you need. The timetable is adaptable so the understudy can make an individual report plan considering their requirements. There's no compelling reason to quit any pretence of anything in view of an absence of time. There's no need to commute in vain. The understudy can make a comfortable spot in their homes to focus. There's no requirement for a study hall any longer. It's in our grasp to reproduce the atmosphere to concentrate in harmony and without interruptions. More often than not, the exercises are taught in little gatherings and on an individual level. This technique, increasingly more famous consistently, permits the educator to become acquainted with the ethics and issues of their understudies and make the most out of the classes. This is a path for the understudies to set their learning speed and discover a space to cooperate straightforwardly and unreservedly with the coach.

Internet learning stages offer a wide and different number of courses. From college to secondary school, there's a course for everybody. Students can even get a degree without venturing foot on a university campus. Online instruction additionally checks with exceptionally different and helpful strategies to address the issues of each sort of understudy. The educational assets of the exercises are accessible from at whatever point and any place you need. The computerized design permits admittance to them at whatever point its important. In customary education, the understudy should be available in the classroom for each exercise. So, they need to commute from one place to the other and that is time and cost consuming. In online education, these costs vanish and there's no compelling reason to squander assets.

Online education is an effective and underestimated elective that permits the understudy to learn at their own speed. It likewise offers adaptability to combine studies and individual life. All of this from the commodity of home. You can even learn while going around the planet without giving up your education. Besides, it saves you time and money. There's no need to pay for transportation, the courses will in general be more affordable, and geographic hindrances don't exist.

There are understudies that without a predetermined structure struggle figuring out how to study. Self-control can be instructed, yet a few understudies as of now have it normally. Online study demands a compromise with the tasks. The hardware you need is a PC with a webcam, earphones and, a decent internet connection. In the event that you don't have one of these, you should procure it. Not all disciplines can be taught online. A couple of subjects, generally the ones that require practice, are better face to face. Be that as it may, there's a method to join both to accomplish an ideal outcome. this can occur if the picked spot to examine isn't satisfactory. It's vitally important to have a proper space a long way from any possible interruption. The virtual climate isn't sufficient to keep up the full convergence of the understudy.

Customary education once in a while causes the understudy to feel less forlorn. The understudy may feel like they are not confronting intellectual difficulties alone and can even form more confidence. Conventional education, by and large, takes into consideration group tasks and understudy association. Thus, they can gain from one another and share questions and concerns. These social ties can assist with concocting new ideas and stimulate creativity. Students who lack self-discipline value a study plan that offers stability and is easy to follow. Customary education powers the understudy to attend the lessons and to examine when required.

Certain limitations are, schedule stiffness as there's no flexibility to create a personal calendar in order to combine studies and personal or work life. Commuting demands an economic expense. Furthermore, If the classroom is far, time is additionally a factor to consider. You need to choose whether the outing is justified, or not. Loss of individualization in a large group of students because it's hard for a teacher to have a customized study plan fit to the needs of each individual in the group. Conventional education is more restricted with regards to instructive arrangements. Sometimes pictures, videos or forums aren't accessible 24/7. This element may restrict the learning and prevent a decent study plan.

Traditional education is still coming strong. It is a very efficient and solid option. All the more critically, it gives understudies a decent report plan. What's more, let's face it, in some cases it's difficult to give up the old habits and start a totally different daily schedule unexpectedly. Eventually, the decision is in learner's hands. It is essential to ponder what you need and what you need from your education. Learners can ask themselves what is more significant for them and settle on a choice.

## **2. OBJECTIVES OF THE STUDY**

1. To study about the benefits of traditional and online learning.
2. To understand the preference of learners for traditional and online learning.
3. To assess effectiveness of online and traditional learning.

## **3. LITERATURE REVIEW**

In this study researchers got to know that both Learning technique have its own advantage and disadvantages. Some characteristics are very good advantage for one learning method, and some are not. It is concluded that it is better to combine these two methods like mixing learning method and using that in necessary place as well as time will provide higher

affective among higher education and it will overcome of all drawbacks from both methods, eventually give highly effective learning process for higher education students. (M.S.S. Rajeeth & others, 2019)

This study addresses the effectiveness of online education. For most of the research on the effectiveness of online education, the result has been the same, online education is as affective as traditional classroom education. Studies even conclude that online education is more effective than traditional classroom education. Online education is effective and overcomes many restrictions which particular students might have whether geographical, economic, social or personal. (Ali Alghazo)

The study concludes that, teachers and students were very satisfied with the implementation of online live broadcast courses in special periods, and also armed the role of online livestreaming courses in improving the quality of teaching. But in general, teachers and students believed that online teaching is an extension of offline classroom teaching. Effective and appropriate use may help improve the teaching effect, but it is impossible to replace traditional classrooms. Teachers were inspired by this live-streaming lesson. They generally believed that online teaching was a form of teaching that was worth promoting. They planned to increase online teaching and use online and offline, in-class and out-of-class teaching modes. (Yun Hong & others, 2020)

For the course to be viable, the time that should be apportioned for internet training will stay an issue for an educator, as the remaining burden is altogether higher. For understudies, an experience with their own learning styles and the longing and inspiration to bear obligation regarding web-based learning will be main considerations in their prosperity. While the educator can, and ought to, plan and screen the course to guarantee that all understudies are kept on target and taking an interest, understudy time management and organizational skills will remain paramount. Moreover, understudies with better perusing and composing abilities will improve in online classes. Customary understudies (age 18-24) accept they learn more in vis-à-vis courses however pick online courses for different individual reasons. 15 to 20 understudies would be the fitting class size for best educating and learning. Subsequently, research on ideal class size for online courses would likewise be useful. Examination on making or getting to instructional systems in electronic conditions that oblige a scope of understudy learning styles would be gainful in assisting with guaranteeing that everything understudies can be fruitful in an electronic climate. (Stern, B.S. 2004)

Assessment of educational value levels in on the web and conventional education shows that customary education is exceptionally significant contrasted with online education. It is out rightly evident that online training doesn't create exceptionally able understudies, regardless of its fame and complexity. Nonetheless, the appropriation of innovation in online education has weaved online courses with a component of dependability and adaptability; hence, the vast majority accept that online training includes an uncommon worth contrasted with the study hall instruction. This is, surely, false on the grounds that quantitative investigations show that classroom education improves the understudies' exhibition and understanding, in contrast to the mainstream idea among the worldwide populace on innovation and high calibres (Caroline Mutuku, 2018)

As per the result of this comparative study it is concluded that although various facilities are available in this e-learning, it can't stand alone especially in management education. Both the combination of e-learning and traditional learning i.e., hybrid learning can work well for management subjects such as human resource development, organizational behaviour,

interpersonal skills, soft skills etc. Conventional learning alone likewise can't represent longer time. Since just facilitator is talking and understudies are listening can make repetitiveness for the understudies. To make fascinating and compelling learning hybrid is acceptable quality for hopeful future managers. (S. Anitha, 2012)

The preference for the method of teaching and learning is influenced by a lot of factors like infrastructure and accessibility to technology. The modern e learning tools have made it easier for the student-teacher community to have access to learning, even outside of institutes at their own ease. E-learning, if made a regular part of teaching can increase its reach and effectiveness. Since a large section of the society is now connected with social media its use for teaching must be encouraged. It can be concluded that the modern ways of education and its IT tools can't replace the teachers but they can empower them for efficient delivery mechanisms of education. A blended approach with a balance of traditional and modern teaching methods is the way forward (Avdesh Bhardawaj & others, 2018)

#### **4. METHODOLOGY OF THE STUDY**

1. Research is based on both primary and secondary data.
2. Primary data collected through questionnaire from the students and secondary Data is collected through various published articles, journals, internet website etc.
3. Convenient sampling method is used to select respondents.
4. For analysis and interpretation suitable statistical techniques are used like graphs, tables etc.

#### **5. LIMITATIONS OF THE STUDY**

1. Data is collected from students; therefore, it could not be generalized.
2. Because of paucity of time and other resources the data was collected from 142 respondents.

#### **6. ANALYSIS AND INTERPRETATION**

Analysis of data can also be defined as the act of transforming data with the aim of extracting useful information and facilitating conclusions. Application of statistical methods depends on the type of data and the questions.

Researcher has collected primary data through questionnaire and analysis is as follows:

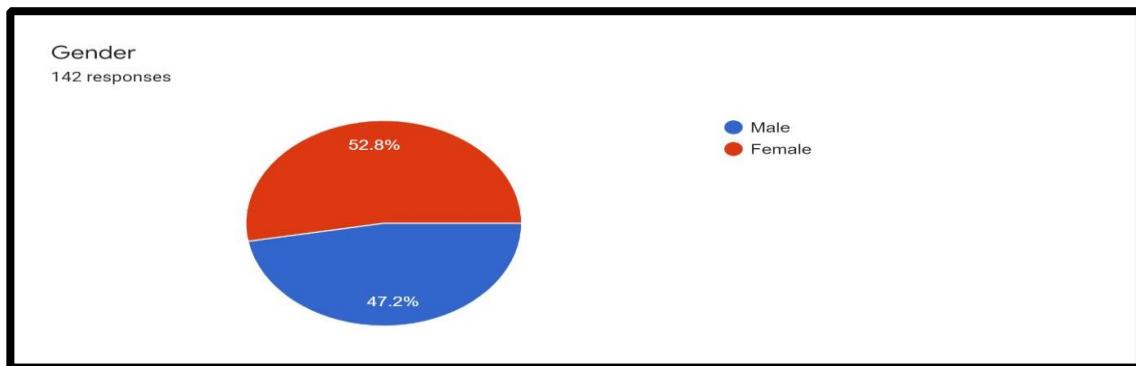


Figure 1: Gender of the Respondents  
(Source: Primary Data)

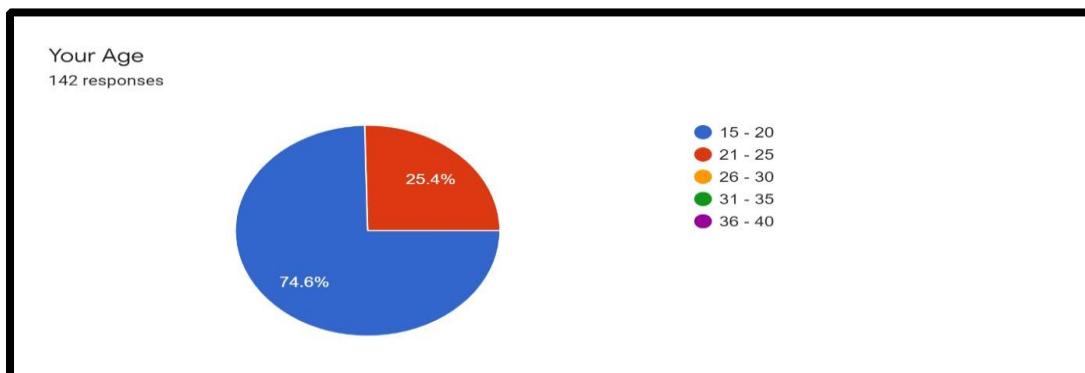


Figure 2: Age of the Respondents

Here sample has majority of young people. Researcher tried to collect information from primarily young adults in order to understand their views towards traditional and online learning.

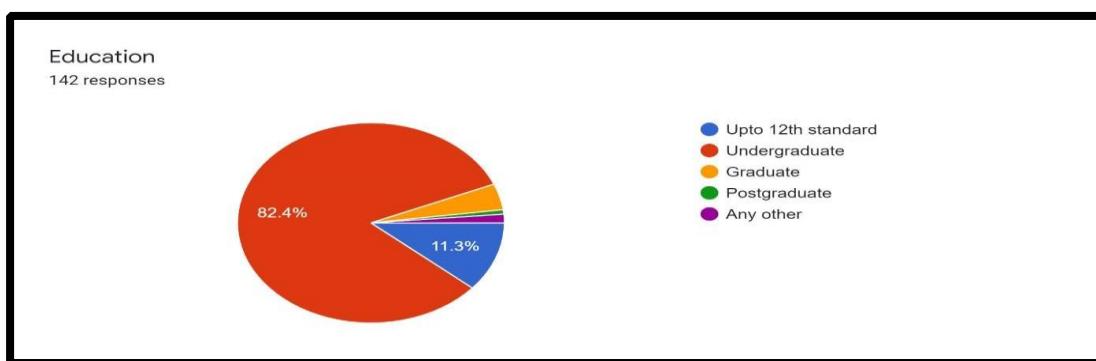


Figure 3: Education of the Respondents  
(Source: Primary Data)

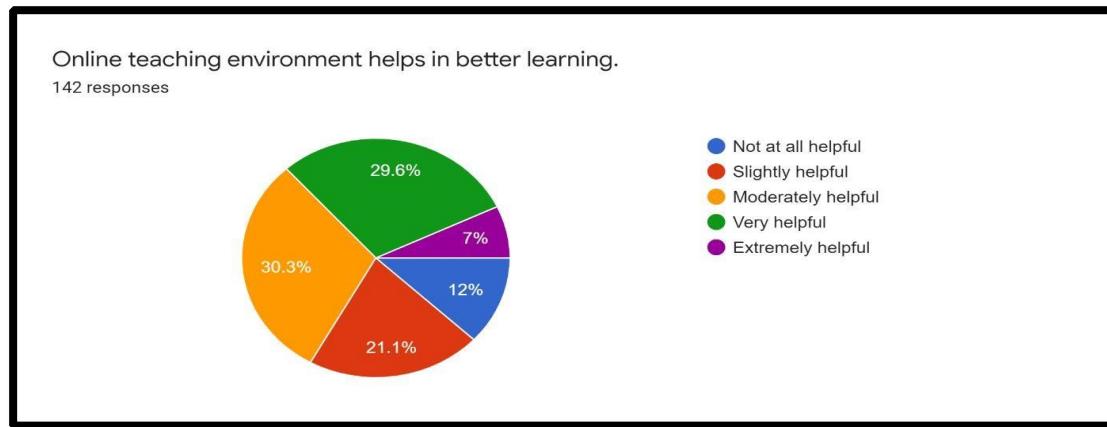


Figure 4: Online teaching environment

(Source: Primary Data)

Majority of the respondents finds that online environment helps in better learning.

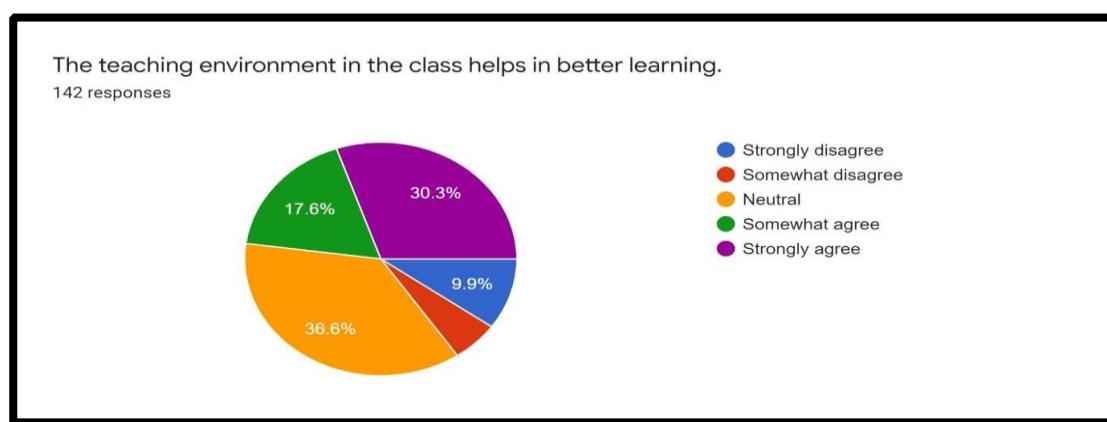


Figure 5: Traditional teaching environment

(Source: Primary Data)

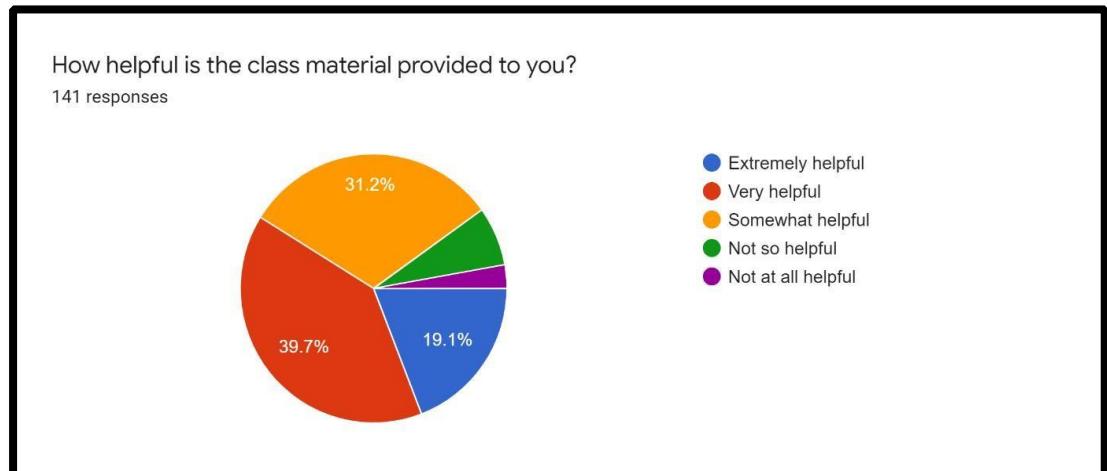


Figure 6: Usefulness of class study material

(Source: Primary Data)

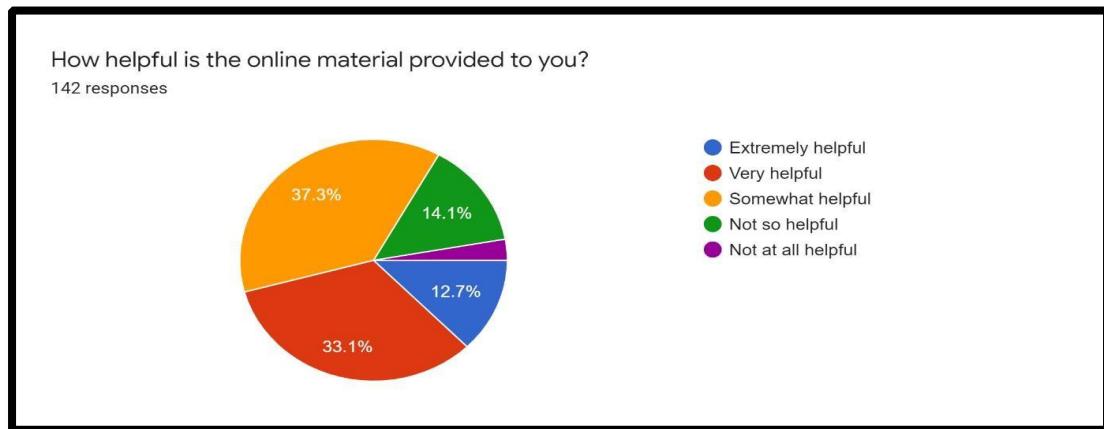


Figure 7: Usefulness of online material

(Source: Primary Data)

Majority of the respondents i.e 45.8% says that the online material provided is very much helpful, and 37.3% says it is somewhat helpful.

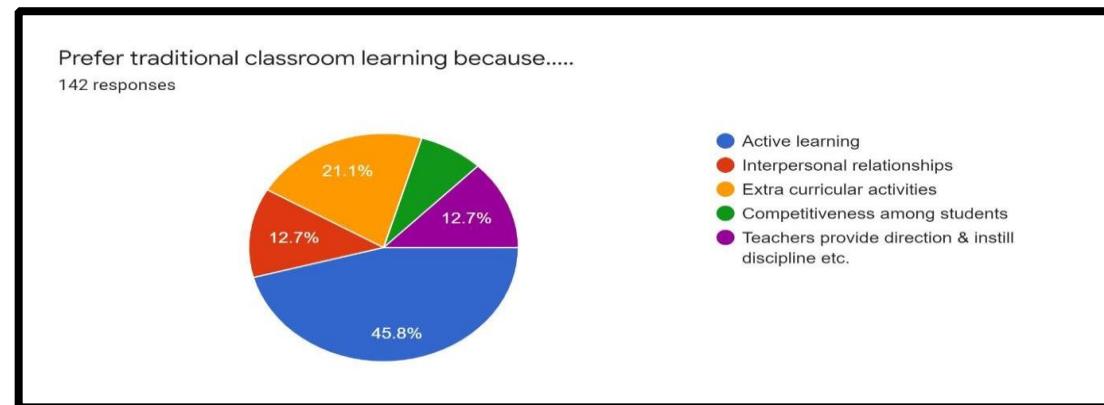


Figure 8: Preference for traditional classroom learning

(Source: Primary Data)

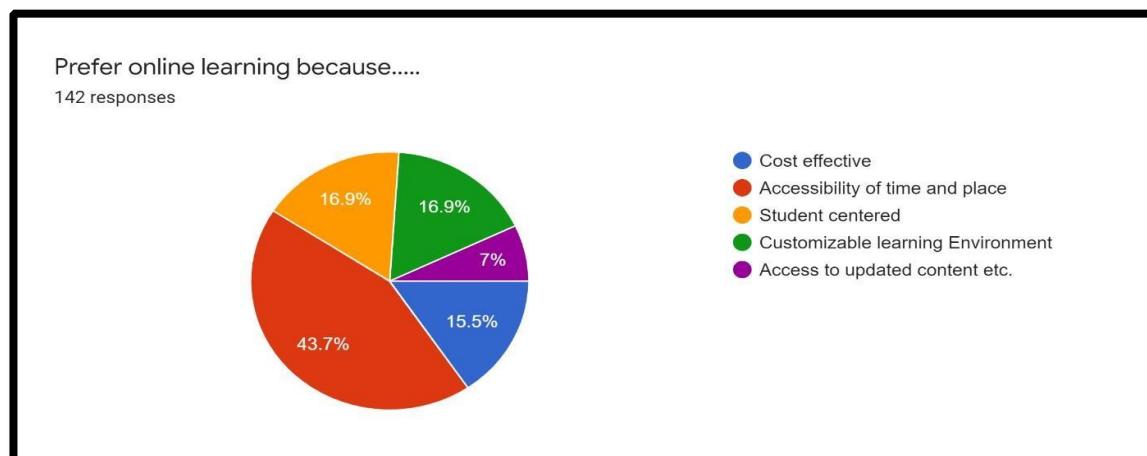
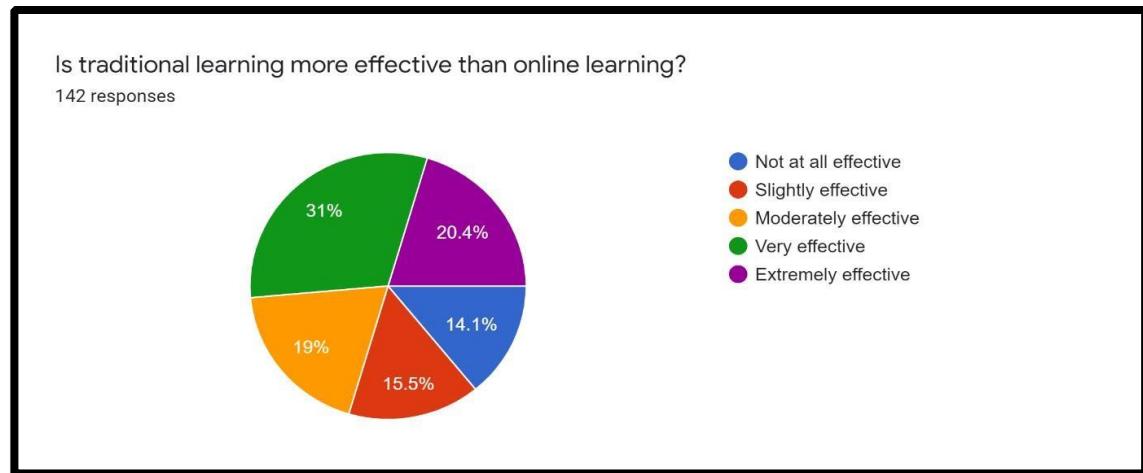
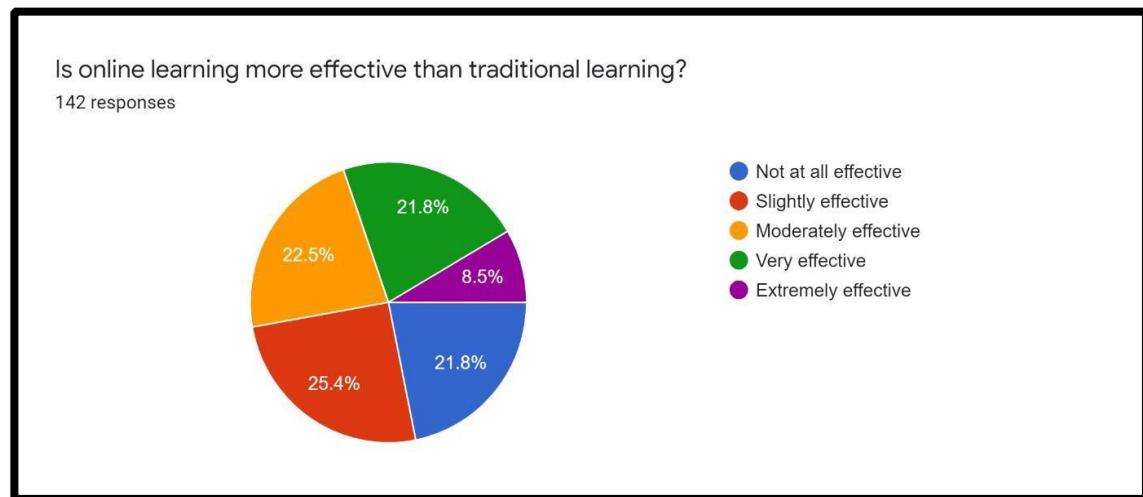


Figure 9: Preference for online learning

(Source: Primary Data)



**Figure 10: Comparison of effectiveness of traditional and online learning**  
(Source: Primary Data)



**Figure 11: Comparison of effectiveness of online and traditional learning**

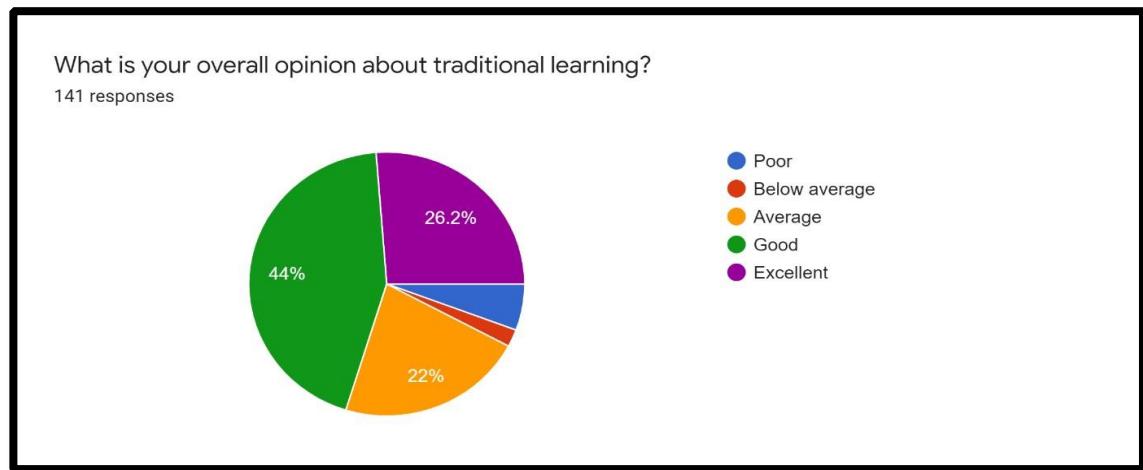


Figure 12: Opinion about traditional learning  
(Source: Primary Data)

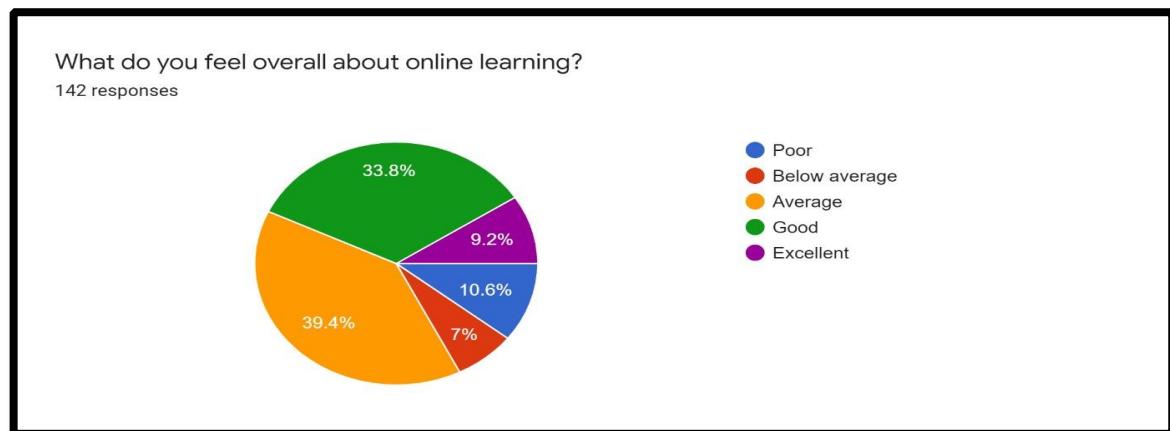


Figure 12: Opinion about online learning

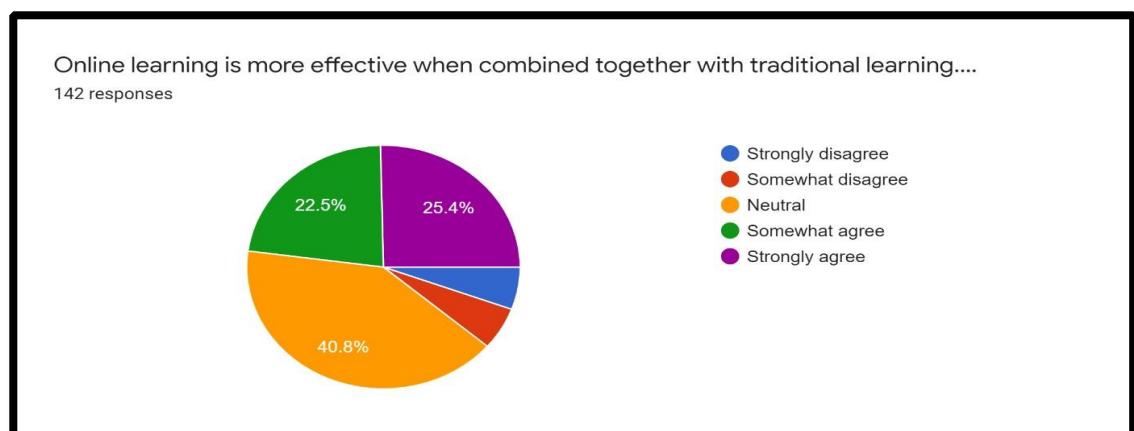


Figure 13: Opinion about Blended learning  
(Source: Primary Data)

47.5% of the total respondent said that, blended learning is more effective. 40.8% were neutral and did not showed any inclination towards blended learning.

## 7. FINDINGS

1. Majority of the respondents are from the age group 15-25. Out of 142 respondents 106 are from the age group 15-20 and 36 are from the age group 16-20.
2. Majority of the respondents are undergraduate students; some were graduate as well as post graduate too. Out of 142 respondents 117 are from undergraduate courses.
3. More than 50% i.e 66.9% means 95 respondents finds that online environment helps in better learning
4. 83 respondents i.e 58.8% finds class material provided in traditional learning is very much helpful.
5. 65 respondents i.e 45.8% of the respondents finds online material provided is very much helpful.
6. Respondents provided different reasons in support of traditional learning. Majority of them i.e 65 respondents (45.8%) prefer traditional learning because it provides active learning and 30 respondents (21.1%) prefer traditional learning environment due to exposure to extracurricular activities other respondent prefer traditional learning environment because of interpersonal relations, teacher's guidance and competitiveness among the students etc.
7. Out of 142 respondents 62 respondents (43.7%) prefer online learning mainly due to flexibility of time and place. Other respondent prefers online learning due to cost effective, customized learning environment, access to uploaded material anytime, student centric etc.
8. Out of 142 respondents 73 respondents (51.4%) said traditional learning is more effective than online learning whereas 43 respondents (30.3%) pointed out that online learning is more effective than traditional learning.
9. Out of 142 respondents, 100 respondents (70.2%) says that traditional learning method is good whereas 61 respondents (43.0%) said online learning method is good.
10. Respondents had mixed opinion about blended learning methods. 67 respondents (47.5%) said that, blended learning is more effective whereas 58 respondents (40.8%) were neutral and indecisive.

## 8. CONCLUSION

Traditional learning methods where teacher or mentor has face to face communication, competitive environment, extracurricular activities, personal attention towards inculcation of values, discipline etc. takes place. In traditional learning focus is on the overall personality development of student. The skill and talent of the students is recognized and requisite platform is provided to them. Online learning has advantages like flexibility of time, student centred, anytime and anywhere accessibility, availability of study material etc. From the overall responses that have been received from the respondent, researcher is able to conclude that both the methods of learning have its own set of advantages and limitations. As the society is undergoing changes, the field of education cannot remain untouched or aloof. We get to see use of technology in the field of education in the form of presentations, online

whiteboard, live online classes, pre-recorded video lectures, flipped classroom, game based teaching, class blog, live chatting, discussion board and forum, use of artificial intelligence etc. During this pandemic situation, when traditional teaching and learning was not possible online learning was a boon. A proper blend of traditional and online learning will prove extremely beneficial to the students. We need to combine the advantages of both the methods and minimize its limitations.

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## Corporate Social Responsibility for Social Impact

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### **ABSTRACT**

Corporate Social Responsibility (CSR) has assumed a new meaning in today's world, given that it has extended the boundaries of the firm into the society. In this paper we discuss the broad patterns of CSR in the Indian scenario. We explain the concept of CSR in the Indian scenario, the social issues addressed by the Indian corporations, and methodology adopted by them to address those issues. We also discuss how these CSR activities bring change in the lives of these disadvantaged and deprived people. Some business association are rather hesitant to accept mandatory CSR requirements promoted by the commission, although the value and importance of CSR for society is acknowledged. Also there is more and more awareness that CSR activities are not merely of charitable nature, but that they also contribute to a positive image of the company, to increased employee and customer satisfaction as well as to other soft factors that need to be taken into account when measuring business success. This approach also reaffirms the view that businesses are an integral part of society, and have a critical and active role to play in the sustenance and improvement of healthy ecosystems, in fostering social inclusiveness and equity, and in upholding the essentials of ethical practices and good governance. This also makes business sense as companies with effective CSR, have image of socially responsible companies, achieve sustainable growth in their operations in the long run and their products and services are preferred by the customers. It will help the readers to understand the current state of Indian CSR, its impact on the Indian society, how to measure the impact of CSR initiatives using newly proposed CSR impact Index.

### **1. INTRODUCTION**

The Indian government is mulling over a new Companies Bill in the Indian Parliament clause 135(5) of the same bill prescribes that every company with a net worth of at least of Rs.5000 million, or turnover of at least Rs. 10,000 mn, or a net profit of at Rs. 50 mn will have to spend 2% of its three years average profit on CSR activities. Given that almost a third of the country's population lives in poverty and penury, CSR provides Indian corporations a readily available and highly impactful opportunity to prove and establish the legitimacy of their actions by moving beyond charities and rural development activities. More objectively, it will tend to counter balance to some extent, the impact of the huge negative externalities that commercial activities tend to create in the developing societies they operate in, also new business models emerging out of these innovative hybrid partnership may give rise to unforeseen fortuitous results that will give a boost to economic growth in this emerging market.

In this paper we aim to discuss the contemporary understanding of CSR practiced by companies operating in India, through their CSR activities, novel implementation approaches, and

stakeholder issues, and the concerns. We present the finding of our research and explain the current CSR orientation of companies in India.

### **Objective of The Study**

1. To study the concept and importance of Corporate Social Responsibility.
2. To study the innovative strategies of Corporate Social Responsibility performed by corporate.
3. To study the ways of implementation of Corporate Social Responsibility.
4. To evaluate the impact of Corporate Social Responsibility in society.

### **Definition**

According to World Business Council for Sustainable Development, 2001, CSR is 'the commitment of business to contribute to sustainable economic development, working with employees, their families, and the local communities'.

CSR is typically described as self-regulation that is part of a corporation's business model and strategic plan. In a perfect world, CSR means that a business monitors itself to make sure it adheres to legal, ethical, environmental, and international standards across its operations.

### **2. REVIEW OF LITERATURE**

According to Bhattacharya in his book *Leveraging Corporate Social Responsibility*, consideration of the social, economic and political context demonstrates how CSR forms part of a wider strategic direction being taken internationally with regard to state/market relations and the pursuit of a range of objectives and goals. The context is in part provided by concerns about the numerous examples of irresponsible behaviour on the part of corporations, ranging from colluding with oppressive regimes and in the overthrowing of governments to issues relating to working conditions and the impact of unethical marketing practices. Such examples have demonstrated the need for the worst excesses of business to be curbed.

According to I. **Jain** in his article (*Corporate Social Responsibility Practices in India*), the globalised economy is understood to raise important issues for businesses and governments due to changes in patterns of production and consumption. The notion of corporate social responsibility is part of the 'third way', where the role of the state is now to provide "steering for the promotion of social development and social justice". There is increased involvement of the private sector in traditionally statutory provision through privatisation and public/private partnerships. Economic policies have created a need for markets and business to self-regulate in order to continue to pursue an international free market economy, but also to ensure sustainability (of economic, human and other resources, and of the environment). CSR is seen as a solution to these problems of regulation.

### 3. RESEARCH METHODOLOGY

In this research, the researcher has used both primary and secondary data. The primary data has been collected through questionnaire. Secondary data is being collected from various books, journals, websites as well as newspapers.

#### **Limitations of the study**

The study is restricted to Mumbai city only.

The survey includes the data of 30 responses.

#### **Importance of Corporate Social Responsibility**

##### **1. It encourages customer loyalty**

People are giving to charitable organizations in high numbers. Millennials are especially active. To attract customers and keep their loyalty, corporations need to pay attention to what customers care about. If a customer feels like they are living out their values by supporting a certain business, they are more likely to stick with the brand.

##### **2. It gives businesses a competitive edge**

Customers care about a business's part in social issues and they will be loyal to corporations they believe align with their values. That means corporations that cater to these customers have a competitive edge over companies that don't. They might offer the same products and services, but the fact that they are making corporate responsibility a priority makes them more appealing. Drawing that distinction is essential for marketing purposes.

##### **3. Corporate responsibility makes employees happier and more fulfilled**

Research shows that employees of businesses that prioritize CSR are happier and more fulfilled. 80% of employees report feeling more purpose when they believe their work makes a difference in the world. That sense of purpose is essential to employee loyalty and dedication. When personally fulfilled, people are less vulnerable to fatigue and stress. They're also more likely to stay with the company.

##### **4. It makes a business more sustainable**

When a corporation decides to make corporate responsibility a focus, it needs to be more innovative and creative. It can't be "business as usual." Nurturing innovation and creativity forces a company to stay relevant and adjust according to what customers want. These days and for the foreseeable future, customers want social responsibility. The ability to adapt is important for longevity and sustainability.

#### **What Makes Corporate Social Innovation Different?**

**Traditional CSR**

Philanthropic Intent  
 Employee Volunteerism  
 Social and Eco-Services

Money, Manpower  
 Contracted Service Providers  
 Social Good

**Corporate Social Innovation**

Strategic Intent  
 Employee Development  
 Social and Eco-Innovations

R&D, Corporate Assets  
 NGO/Government Partners  
 Sustainable Social Change

**1. Governance - Sustainability needs to come from within**

When corporations decide to move from CSR activities to investing strategically in its people or processes in order to be more socially or environmentally minded, they need to have the full support of senior executives and shareholders to take effect. These shifts represent large investments which will increase the business's sustainability in terms of finance and community. Only through strong leadership paired with a set of measurable goals will the desired business transformation take place.

**2. Strategic Partnerships: Scaling innovation through collaboration**

Innovation comes from unlikely connections. Most businesses underestimate the diversity of the communities, organisations and people they impact within their ecosystem. This is an untapped source of innovation. In order to build innovative and sustainable businesses, one can easily understand the necessity to collaborate with its different parts. Designing, manufacturing, delivering and scaling with the most relevant organisations and people rather than at them.

**3. Employee Engagement: Unlocking human potential**

Once social innovation has been embraced at a governance level, businesses will need to engage employees to have a new strategy turn into reality. Might it be through intrapreneurship initiatives or community driven volunteering schemes, changing mindsets within the organisation is key to align employees with the strategic shifts towards long-term sustainability planned by executives. This new set of organisational goals, the resources and incentives that each employee has in his or her hands to act on them, will need to be clearly conveyed in order for all of the business's human potential to be unlocked.

**4. Product Innovation: From social issue to business opportunity**

Peter Drucker, consultant and author, whose writings contributed to the philosophical and practical foundations of the modern business corporation once said “every single social and global issue of our day is a business opportunity in disguise”. There are numerous examples of highly successful start-ups, now global companies, which have done just that. However competing business priorities, especially pressures on short term profit by shareholders, often

lead to a shorter term vision, potentially losing on profit-making, community-improving product and service innovations.

### **5. Community Engagement: Giving back to people you sell to**

At the 2013 TED Global conference, Harvard Business School professor Michael Porter made the case that businesses can help tackle community problems, as organizations and institutions dealing with them don't have nearly enough resources to finance the necessary change. The model in place to deal with social issues, including NGOs and philanthropies, is well-meaning but often scales with difficulty. Issues such as healthcare, access to water or education and climate change would be much better addressed with a deeper collaboration between businesses, NGOs and governments.

#### **4. APPLICATIONS**

Activities which may be included by companies in their Corporate Social Responsibility Policies

Activities relating to:—

Eradicating extreme hunger and poverty;

Promotion of education;

Promoting gender equality and empowering women;

Reducing child mortality and improving maternal health;

Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases;

Ensuring environmental sustainability;

Employment enhancing vocational skills;

Social business projects;

Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women.

#### **5. FINDINGS**

Our study shows that most companies in India engage with local communities near their area of operations, and the beneficiaries of CSR activities are generally the local population.

The companies think that CSR is a set of philanthropic activities a company carries out voluntarily on a random basis in the local community.

Taking a holistic view of CSR is irreplaceable since currently in our sample of companies, we observe that most firms have adopted the same sectors for CSR (e.g. , healthcare, or education), and then they spend CSR budgets on a project basis (doing some health camps, adopting a village, building a road, maintaining a facility and so on). Such project to project variations in CSR initiatives is seemingly devoid of a strategy, and also shows a lack of synergy with business operations.

It has been seen in the survey that the implementation of CSR activities are mainly carried out by corporate voluntary followed by caused related marketing, sponsorship and donations.

CSR has not remained the same which was a decade earlier, but now CSR has been practiced more in terms of gain in reputation and goodwill, we lack in helping the target audience completely as the CSR activities are carried out initially very well but the enthusiasm seems to disperse within time.

## 6. SUGGESTIONS

The following are some suggestion evolved in the brainstorming process of discussion.

Adopt a small village, Educate the people on sanitation, cleanliness, good habits through counsellors appointed by company., Tree plantation in the approach road., Clean the beach areas /rivers with a voluntary team., Take the orphanage children for a movie/outing., Talk to the old age homes and arrange some entertainment to them., Help the old age home inmates writing letters to their near and dear ones., Give them used/old mobile sets with incoming call facility., Organize free medical/blood donation camp., Giving used clothes, shoes, school bags, books to the deserved ones., Free service at Govt Hospitals., Arrange dust bins for collecting garbage in villages., Opening Employment bureau, collect opportunities list for all kind of people and coordinate with unemployed youth to engage them gainfully., Offer Project trainee opportunities to unemployed youth fresh from colleges (MBA, Graduates/Post graduates, Engineers, Diploma holders, ITIs) give them training of minimum 6 months (unpaid apprentice like) and give them a certificate of completion of training., Collaboration of cooperative societies with NGOs which can help in mediums of rehabilitation, Organize Yoga/physical fitness camps, control over criminal activities etc., Practice of consistent CSR audit.

## 7. CONCLUSION

By synthesizing the findings of the survey of the final report draws the following conclusions:

It is now recognized that poverty reduction and sustainable development will not be achieved through government action alone. A truly cross-sectoral institutionalization and a better collaboration between ministries could improve CSR policies in line with other SD policies, and the triple bottom line principle that is shared by both concepts. Awareness raising is important, but overall rather soft CSR policy approach lacks the potential. The target groups of the surveyed CSR policy initiatives do not match with the general assessment of target groups. Future CSR awareness raising initiatives should take this mismatch into consideration. Awareness raising initiatives should always explore possibilities of involving the media, including business-specific channels of communication, such as magazines or newsletters of chambers of commerce, as well as trade and labour unions. CSR initiatives should focus on companies needs. One way of providing relevant practical information to different companies is to tailor it to company size and sectors.

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## Crude Oil Replacement is a Need

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### ABSTRACT

More than four billion tons of crude oil are produced every year. Electricity from wind, solar and hydropower plants cannot entirely supplant fossil sources of energy. At best, renewables could cover the energy needed to power all electric cars and to generate hydrogen for fuel cell vehicles. Even then, gasoline would still be required to power combustion engines, which will be operating for decades to come. The only sustainable way to keep us mobile is to replace this gasoline with alternative fuels. Scientists at the Fraunhofer Institute for Microengineering and Microsystems IMM, working together with twelve research groups from seven countries in the EU project BIOGO, have developed a technique to produce just such an eco-friendly biofuel. The novel fuel's ingredients come from forests: "Wood waste and tree bark are available in great quantities throughout Europe but, up to now, have all been ignored as a resource. That makes them an ideal raw material, as they do not need to be specially cultivated and thus won't compete with food production," explains Prof. Gunther Kolb from Fraunhofer IMM, who coordinated the EU project. What is more, using wood waste is climate-neutral, since converting it into fuel for combustion only releases carbon dioxide that the trees previously extracted from the atmosphere as they grew. In other words, no additional greenhouse gases are released into the atmosphere. On top of that, the fuel can be generated from wood waste wherever trees grow. Unlike petroleum, it doesn't need to be transported first from the source to refineries and then on to filling stations. "An important component of the BIOGO concept is decentralized production," says Kolb. "To achieve this, we have developed mobile production units that can be housed in containers and installed where they are needed."

**Key words:** Alternative fuels, energy consumption, power generation, renewable energy, crude oil

### 1. INTRODUCTION

Being mobile is perfectly natural for most of us. We take the car to work, fly to our holiday destination – and cruise tourism is still growing. Mobility means freedom, allows us to see the world – and is sometimes just plain comfortable. But it also has its downsides. Approximately a quarter of the world's CO<sub>2</sub> emissions can be traced back to traffic. After all, the gas that was bound in mineral oil thousands of years ago is released into the atmosphere when fossil fuels are burned.

Concerning the emerging e-mobility, the demand to only use electricity from renewable sources is still far from reality at the moment. Thus, our means of transportation considerably contribute to climate change. Especially since fossil fuels are limited by definition and will inevitably run out sooner or later. Therefore, we need alternatives to classic petrol, diesel and kerosene: green, regenerative alternatives.

## 2. BIOFUELS

### 2.1 Biofuels: Mobility, powered by nature

Good news is that these alternatives already exist – for example in the form of biofuels. The classics are biodiesel, which is based on vegetable oil, as well as bio-ethanol, which is produced from sugar cane, sugar beet or wheat. Since these plant-based raw materials grow back continually, combustion in the engine is basically climate-neutral: the CO<sub>2</sub> released during driving is limited to the quantities that the plants have absorbed beforehand – a sustainable cycle is created.

At present, the share of biofuels in the total amount of fuel consumed is still low – in 2014 it was a meagre 5.1 percent. For the future, however, experts estimate that more biofuels will end up in our tanks. The International Energy Agency predicts that by 2045 about 20 percent of road traffic will be powered by vegetable fuel.

### 2.2 Biofuel: plant residues in the tank

Consequently, it's only fitting that we at ThyssenKrupp have a clear goal: We want to become climate-neutral by 2050 – and that also applies to the emissions generated by using our products. That's why we continually work on the future of green fuels.

Our Biofuel project aims precisely in this direction: With this innovative technology, our energy experts want to make it possible to produce Biofuel cheaply and thus suitable for mass production. "Biofuel" stands for "biomass to liquids" and describes the production process of the new biofuels in detail. Biomass, i.e. natural waste such as green waste, straw and waste wood is turned into high-quality aviation fuel and diesel. This is a major advantage over the old biofuel generation, for which edible plants such as rapeseed, corn or sugar cane are processed. Considering the lack of food in many countries, this process led to criticism and defined the "food or fuel discussion."

If the project is successful, the Btl fuel could be offered pure or mixed with fossil fuel: for all diesel or kerosene powered engines and other engines, regardless of whether they are used in cars, trucks, trains, ships or airplanes. A conversion will therefore not be necessary. And best of all, the innovative biofuels save 90 percent of CO<sub>2</sub> emissions compared to conventional fuel.

Being mobile is perfectly natural for most of us. We take the car to work, fly to our holiday destination – and cruise tourism is still growing. Mobility means freedom, allows us to see the world – and is sometimes just plain comfortable. But it also has its downsides. Approximately a quarter of the world's CO<sub>2</sub> emissions can be traced back to traffic. After all, the gas that was bound in mineral oil thousands of years ago is released into the atmosphere when fossil fuels are burned.

Concerning the emerging e-mobility, the demand to only use electricity from renewable sources is still far from reality at the moment. Thus, our means of transportation considerably contribute to climate change. Especially since fossil fuels are limited by definition and will inevitably run out sooner or later. Therefore, we need alternatives to classic petrol, diesel and kerosene: green, regenerative alternatives. Urban transport, urban areas, mobility dilemma  
An everyday life without means of transport is nowadays hardly to imagine. Full streets and a lot of traffic are part of our day-to-day life.

### 2.3 Biofuels: Mobility, powered by nature

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produced from sugar cane, sugar beet or wheat. Since these plant-based raw materials grow back continually, combustion in the engine is basically climate-neutral: the CO2 released during driving is limited to the quantities that the plants have absorbed beforehand – a sustainable cycle is created.

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#### **2.4 BioTfuel: plant residues in the tank**

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#### **2.5 BioTfuel, fuel, diesel, biofuel**

This plant produces high-quality aircraft fuel and diesel from biofuels. If the project is successful, the Bio t fuel could be offered pure or mixed with fossil fuel: for all diesel or kerosene powered engines and other engines, regardless of whether they are used in cars, trucks, trains, ships or airplanes. A conversion will therefore not be necessary. And best of all, the innovative biofuels save 90 percent of CO2 emissions compared to conventional fuel.

### **3. E-FUELS: GREEN HYDROGEN TO TURN TRANSPORTATION AROUND**

In addition to alternative plant-based fuels, the so-called "e-fuels" are also a hot topic. They are artificial fuels based on green hydrogen – "green" because the energy required for water electrolysis is obtained from renewable energy sources. The idea is simple: hydrogen and CO2 react and form methane – the most important ingredient for green, synthetically produced and petroleum-free fuel.

One way to achieve this is our Carbon2Chem Initiative – a globally unique large-scale project in which the gases produced during steel production, especially the climate-damaging CO2, are no longer burned but transformed into valuable raw materials such as methanol or ammonia. Metallurgical gases contain chemical elements such as nitrogen, hydrogen and above all CO2. Our experts further process the substances into a precursor for methanol, from which fuel can be produced in the final step. This innovative technology could be used on an industrial scale in five to ten years.

#### 4. OXYFUEL: CO<sub>2</sub> BECOMES SYNTHESIS FUEL

The energy-intensive cement industry, which is responsible for around seven percent of global CO<sub>2</sub> emissions, also offers opportunities for e-fuels: Our oxyfuel process allows the harmful greenhouse gas CO<sub>2</sub> to be separated in concentrated form and used as fuel, amongst other things. With our innovative method, the burning process in clinker production is no longer operated with ambient air, but with pure oxygen. As a result, hardly any nitrogen enters the firing process and highly concentrated CO<sub>2</sub> is produced. In this form, the gas can finally be separated so that it does not enter the atmosphere. Thanks to its purity and using other technologies, the greenhouse gas can then be converted into a raw material – and thus forms the basis for the production of e.g. fertilizers, plastics but also synthetic fuels.

#### 5. CONCLUSION

Renewable resources such as wind, solar, and ocean power exploited by Nano techniques will be promisingly reliable solutions to diminishing the dependence on fossil fuel supplies. In the Good future, research on the remediation of environmental problems and green technologies will be realized to make the new clean eco-energy sources practical on a commercial scale

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## Digital Marketing: Current Trends in India

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### ABSTRACT

The rapidly emerging digital economy is challenging the relevance of existing marketing practices and a radical design of the marketing curriculum consistent with the emerging student and **business needs of the 21<sup>st</sup> century** is required to remain relevant to our students and to the ultimate consumers of our output business, the marketing curriculum must evolve with both the changing technology environment and the way marketing is perceived by its own academic architects after an overview of recent marketing trends .his article describe the need for a fundamental change in the teaching of marketing in today's environment performs a curriculum audit of existing digital marketing initiatives and then details of a new curriculum reflective of marketing in a digital age and an approach to implement it. Finally, the new major is discussed in the context of specific challenges associated with the new age of marketing. The approach developed here provides other universities target to serve as one measure of progress towards a curriculum more in tune with the emerging digital environment.

**Keywords:** *radical design, curriculum audit, marketing curriculum*

### 1. INTRODUCTION

In simplistic terms, digital marketing is the promotion of products or brands via one or more forms of electronic media. Digital marketing differs from traditional marketing in that it involves the use of channels and methods that enable an organisation to analyse marketing campaigns and understand what is working and what isn't – typically in real time. (1). Digital marketing or marketers monitor things like what is being viewed how often and for how long sales conversion what content works and doesn't work etc., while the internet is perhaps, the channel most closely associated with the digital marketing. Others include wireless text, messaging, mobile instant messaging, mobile apps, pod casts, electronic bill boards, digital television and radio channels etc.

**Importance of Digital Marketing:** Digital media is so pervasive that consumers have access to information any time and any place they want it gone are the days when the message people got about your products or services came from you and consisted of only what you wanted them to know. Digital media is an ever growing source of entertainment news shopping and social interaction and customers or consumers are now exposed not just what your company says about your brand, but what the media, friends, relatives, peers, etc., are saying as well and they are more likely to believe them than you people want brands they can trust, companies that known them, communications that are personalised and relevant, and offers tailored to their needs and preferences.

**Customer Interactions across All channels:** Digital marketing and its associated channels are important but not to the very high extent it's not only enough to just know your customers you must know them anybody also so you can communicate with them where, when and how they are most receptive to your message. To do certain kind of activities like that you must need a consolidated view of customers preferences and expectations across all channels like web, social media, mobile, direct mail, point of sale etc., Marketers can use this information to create and anticipate consistent, coordinated customers experience that will move customers along in buying cycle.

### Challenges Facing in Digital Marketing

- Proliferation of digital channels
- Intensifying competition
- Exploding data volumes

## 2. RESULTS

As per the recent survey revealed that the uses of digital marketing and its standards is increasing vigorously in the present era. Is most preferable market in India now-a-days. The digital marketing scenario is increasing rapidly across the India as well as the world. So there is a large scope for the digital marketing industry in Indian market. Some statistical data is given below to support the statements.



Source : Group M Estimates  
Table 1: Digital Advertising in India-Year on Year Growth

Digital Advertising in India	
Year	Growth in %
2011	71
2012	64
2013	39
2014	27
2015	38
2016	45
2017	38
2018	34
2019	57
2020	62

**Source : Group M Estimates**

Digital Marketing-Connecting People:

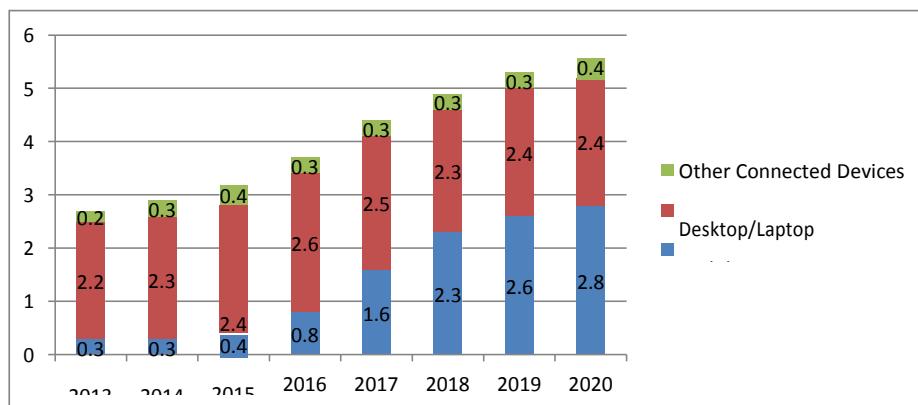


**Interpretation:** Digital marketing is connecting to India in all the social means of ways. It is most effective worth project in India in present business scenario. Some of the medias are ppc ,sms, mobile, augmented reality, seo,smo,email.,etc.,

Table 2: International View in Digital Marketing

Time Spent per Adult User per Day with Digital Media in INDIA 2013-2020				
Year	Hours Per Day – Various Devices			
	Mobile	Desktop/Laptop	Other Connected Devices	Total
2013	0.3	2.2	0.2	2.7
2014	0.3	2.3	0.3	2.9
2015	0.4	2.4	0.4	3.2
2016	0.8	2.6	0.3	3.7
2017	1.6	2.5	0.3	4.4
2018	2.3	2.3	0.3	4.9
2019	2.6	2.4	0.3	5.3
2020	2.8	2.4	0.4	5.6

#### Graphical Interpretation



**Interpretation:** The time spend per adult user with digital media, INDIA, 2011-2018 tears are as follows. On the x-axis it is taken as hours per day. On y-axis years are taken. Usage of mobile internet is more increasing now a day's Desktop usage seems constant from 2013 to

2020. Other connected devices are only 0.3% -0.4%only.

### 3. DISCUSSION AND CONCLUSION

Consumers use multiple digital channels and a variety of devices that use different protocols, specifications and interfaces and they interact with those devices in different ways and for different purposes. Digital channels are relatively cheap, compared with traditional media, making them within each of practically every business of every size. Finally, I conclude my topic with three keys to digital marketing success.

**Keys to Digital Marketing Success:** Manage complex customers relationships across a variety of channels both digital and traditional. Respond to and initiate dynamic customer interactions. Extract value from big data to make better decisions faster.

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## Embracing Change & Transformation in Mutual Fund Industry

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### **ABSTRACT**

A mutual fund is a type of financial vehicle made up of a pool of money collected from many investors to invest in securities like stocks, bonds, money market instruments, and other assets. Mutual funds are operated by professional **money managers**, who allocate the fund's assets and attempt to produce capital gains or income for the fund's investors. A mutual fund's portfolio is structured and maintained to match the investment objectives stated in its prospectus. Mutual funds give small or individual investors access to professionally managed portfolios of equities, bonds, and other securities. Each shareholder, therefore, participates proportionally in the gains or losses of the fund. Mutual funds invest in a vast number of securities, and performance is usually tracked as the change in the total market cap of the fund derived by the aggregating performance of the underlying investments.

**Keywords:** - Mutual Funds, Money Manager

### **1. OBJECTIVES**

This study aims to gather information on how Mutual Funds are making India, a growing economic country. For this purpose, researcher has tried to find out the solutions for following questions: -

- What is the future of Mutual Funds towards development of India in coming 5 years?
- What are the opportunities to serve in Mutual Fund Industry?
- Impact of COVID-19 on Mutual Fund Industry.

### **2. RESEARCH METHODOLOGY**

This research is purely a doctrinal research. This research is based on collection of data from secondary sources like journal, book, newspaper, magazines, websites and acts.

### **3. INTRODUCTION**

- A mutual fund is a type of investment vehicle consisting of a portfolio of stocks, bonds, or other securities.
- Mutual funds give small or individual investors access to diversified, professionally managed portfolios at a low price.
- Mutual funds are divided into several kinds of categories, representing the kinds of securities they invest in, their investment objectives, and the type of returns they seek.
- Mutual funds charge annual fees (called expense ratios) and, in some cases, commissions, which can affect their overall returns.
  - The overwhelming majority of money in employer-sponsored retirement plans goes into mutual funds.

**The Association of Mutual Funds in India (AMFI)**, the trade association of Asset Management Companies (AMCs) of all Mutual Funds in India has announced its Vision 2025

for the mutual fund industry and launched a fact book along with CRISIL called "**Quantum Leap Beckons**" which provides comprehensive and historical statistics on the mutual fund industry. This was done at the first ever mutual fund summit in the presence of chief guest Ajay Tyagi, Chairman of the Securities Exchange Board of India (SEBI).

The theme of the summit was "**Vision 2025: Setting the Roadmap for the Industry**", with key focus on customer expansion and ease of doing business by leveraging digital technology. AMFI Chairman A Balasubramanian said, "The mutual fund industry is maturing and taking responsible steps in managing investor's money and generating returns. The industry is at an inflection point and set to become a part of investment consideration of every investor, thus making mutual funds a preferred investment choice"

#### **4. IMPACT OF COVID-19 ON MUTUAL FUND INDUSTRY IN INDIA**

The start of 2020 appears to be a double whammy for mutual funds. First, there is the COVID-19 pandemic, and then there is a sudden drop in international crude oil prices. Panic in global markets ensued these events. A series of measures were taken by the Indian capital market regulator SEBI and the mutual fund industry body AMFI to protect and safeguard the investors and the mutual fund industry. Understanding market trends, particularly during periods of crisis, is a necessary trait for academic researchers, capital market enthusiasts, distributors, and those seeking a career in the asset management industry.

The scary fall in the stock markets has resulted in investor panic who ran to make MF redemptions. The net outflows are to a tune of Rs. 2.13 lakh crore in March 2020. Much of the damage was because of outflows in the debt segment that saw the highest outflows ever seen in the Indian Debt MF segment in a financial year. Equity investment base managed by MFs got cut by a quarter. With this, the total AUM by all the 44 AMCs fell from Rs. 27.23 lakh crores at the end of February 2020 to Rs. 22.26 lakh crores by the end of March 2020.

Investments always carry market risks. Debt fund investors tend to forget this until they experience this first hand, which, of course, happens rarely. Liquid funds are no exception to this. There are several reasons for this. FIIs sold aggressively in the short-term bond market, and so did corporates to get cash for paying advance tax. Stockbrokers' activity was low due to lockdown.

Lockdown has forced front office operations of AMCs and RTAs to be almost shutdown. AMFI directed all transactions to be done in electronic format only. Some AMCs such as IDFC AMC are encouraging their employees to work from home to provide essential customer support services. Mutual funds are mostly distributor-sold products. Unlike SEBI registered companies providing financial services, distributors are not given permission to move out during the lockdown, and hence distributor-led operations mainly got affected. While electronic transactions are allowed, investors such as senior citizens and retired still use offline and transact with cheques. Such investors could not transact because of the lockdown.

Cut off timings for various mutual fund transactions have been advanced as a result of RBI reducing trading hours for money market and forex markets. Subscription and redemption requests for Liquid and Overnight funds is changed to 12:30 Noon and 1:00 PM, respectively. For all other schemes, the cut-off time is changed to 1:00 PM for both subscriptions and redemptions.

Equity-oriented mutual fund schemes delivered a negative return of about 25 per cent to investors in the months of March and April 2020 as the broader market witnessed significant downtrend amid coronavirus-triggered recession fears. The 44-player mutual fund industry is not immune to the economic blowback of Covid-19, and going ahead, small and mid-cap equity schemes will continue to remain under pressure in the short to medium term on account of volatility in the markets.

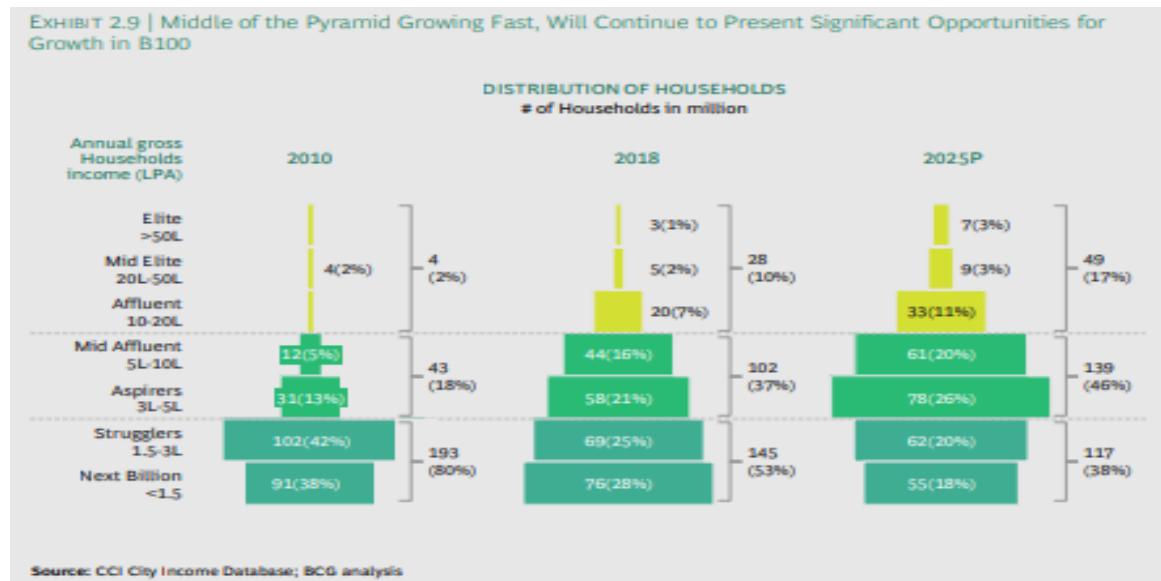
According to data compiled by Morningstar India, all the equity scheme categories -- equity linked saving scheme (ELSS), mid-cap, large & mid-cap, large-cap, small-cap, mid-cap and multi-cap have given negative return in the range of 25-26 per cent between February 19 and March 18, 2020. Individually, large and mid-cap funds have given a negative return of 26.63 per cent followed by large-cap (26.58 per cent), ELSS (26.47 per cent), multi-cap (26.45 per cent), small-cap (26.32 per cent) and mid-cap (24.84 per cent).

##### 5. MUTUAL FUND PERFORMANCE AFTER LOCKDOWN IN INDIA

Scheme Name	Benchmark	Latest NAV (₹)		1-Year Return (%)			Daily AUM (Cr.)
		Regular	Direct	Regular	Direct	Benchmark	
Aditya Birla Sun Life Frontline Equity Fund	NIFTY 50 Total Return Index	159.7200	170.3000	-29.80	-29.35	-28.30	13,994.48
Axis Bluechip Fund	NIFTY 50 Total Return Index	25.0800	27.2900	-11.66	-10.61	-28.30	10,703.96
Baroda Large Cap	NIFTY 100 Total Return Index	11.2200	11.8000	-22.94	-22.42	-28.01	25.99
BNP Paribas Large Cap Fund	NIFTY 50 Total Return Index	73.0900	79.1400	-16.77	-15.87	-28.30	636.91
Canara Robeco Bluechip Equity Fund	S&P BSE 100 Total Return Index	20.7900	22.3400	-16.20	-15.12	-28.63	325.69
DSP Top 100 Equity Fund	S&P BSE 100 Total Return Index	149.3130	156.4340	-27.94	-27.42	-28.63	1,738.03
Edelweiss Large Cap Fund	NIFTY 50 Total Return Index	27.0200	28.5700	-24.06	-22.99	-28.30	140.69
EsseL Large Cap Equity Fund	NIFTY 50 Total Return Index	16.4001	18.0394	-28.72	-27.66	-28.30	63.19
Franklin India Bluechip Fund	NIFTY 100 Total Return Index	326.0084	346.2558	-31.17	-30.64	-28.01	4,306.97
Invesco India Largecap Fund	NIFTY 50 Total Return Index	21.4200	23.8700	-25.73	-24.75	-28.30	154.38
JM Large Cap Fund	S&P BSE Sensex Total Return Index	59.0991	63.8492	-11.07	-10.22	-26.39	559.03
Kotak Bluechip Fund	NIFTY 50 Total Return Index	177.0550	191.1040	-24.62	-23.79	-28.30	1,135.63
L&T India Large Cap Fund	S&P BSE 100 Total Return Index	20.4000	21.5120	-25.02	-24.39	-28.63	397.14
LIC MF Large Cap Fund	NIFTY 100 Total Return Index	21.6851	23.1436	-17.28	-16.52	-28.01	262.54
Mahindra Manulife Large Cap Pragati Yojana	NIFTY 50 Total Return Index	7.6300	7.7964	-24.68	-23.13	-28.30	73.57
Mirae Asset Large Cap Fund	NIFTY 100 Total Return Index	37.5360	40.0680	-26.90	-26.09	-28.01	12,770.87
Nippon India Large Cap Fund	S&P BSE 100 Total Return Index	23.2847	24.8360	-34.74	-34.19	-28.63	8,356.74
PGIM India Large Cap Fund	NIFTY 50 Total Return Index	125.6100	137.5900	-25.26	-24.31	-28.30	229.72
SBI Bluechip Fund	S&P BSE 100 Total Return Index	28.6937	30.5941	-27.09	-26.53	-28.63	16,512.06
Tata Large Cap Fund	S&P BSE Sensex Total Return Index	158.0955	172.5712	-28.05	-27.40	-26.39	555.67
Taurus Largecap Equity Fund	S&P BSE 100 Total Return Index	54.5900	57.4400	-26.77	-26.58	-28.63	18.76
Union Largecap Fund	S&P BSE 100 Total Return Index	7.9600	8.1300	-26.30	-25.89	-28.63	137.70
UTI Mastershare Fund	S&P BSE 100 Total Return Index	92.2299	96.4064	-25.18	-24.61	-28.63	4,738.46

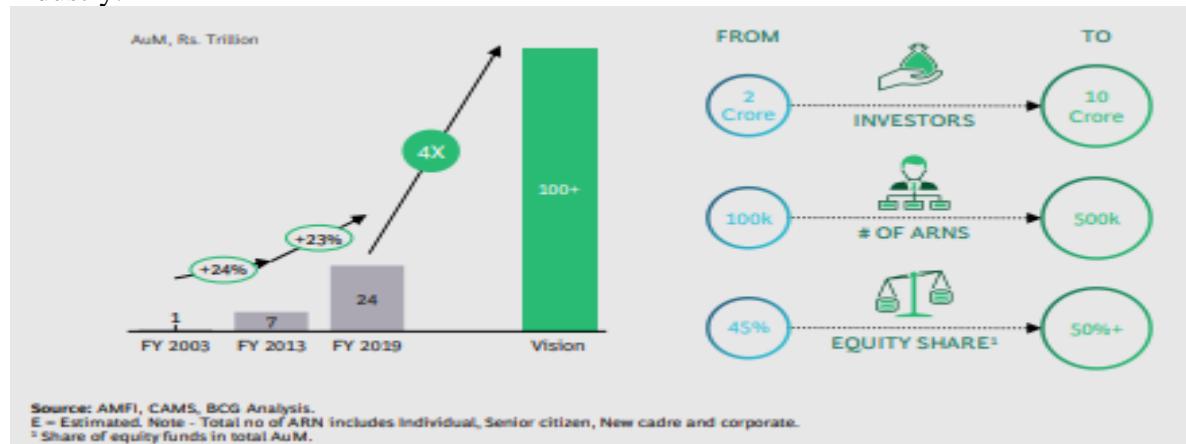
From the above table, it is clearly seen that after the declaration of lockdown by India, all the mutual funds have started a decline in Net Asset Value.

## 6. VISION 2025- MUTUAL FUND INDUSTRY

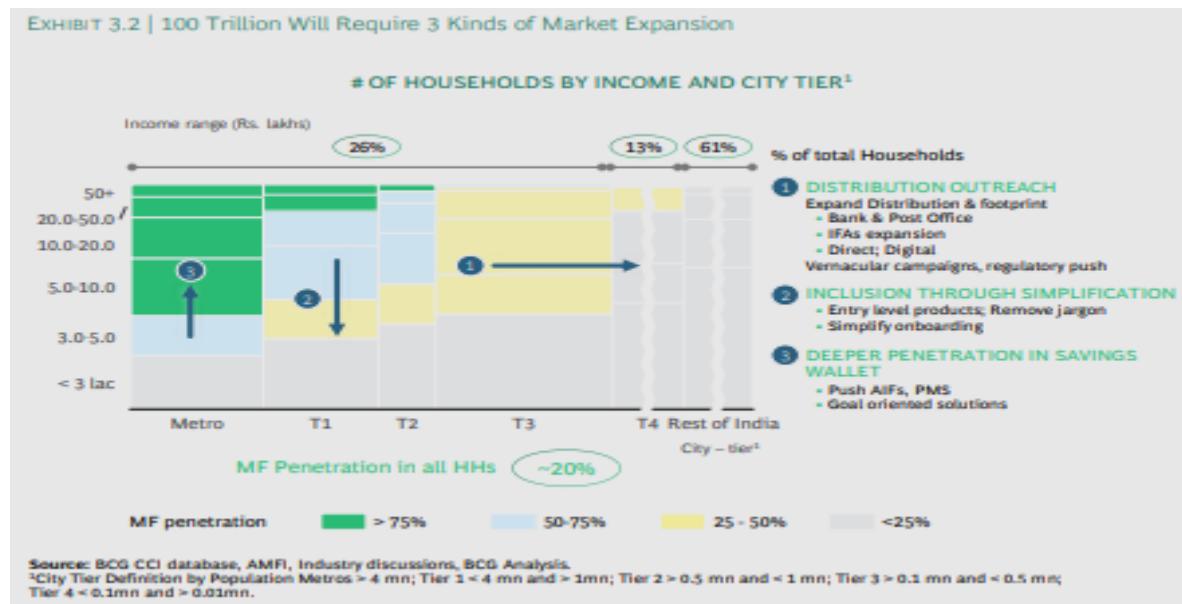


While there has been a positive shift in overall household penetration, it is important to improve the penetration levels in the middle of the income pyramid. The >INR 10 lakh income segment accounted for ~10% of all households while the INR 3-10 lakh income segment accounted for ~37% of all households in 2018. These figures are expected to increase to 17% and 46% respectively by 2025. Overall, the mutual fund industry has seen a large shift across multiple dimensions:

- Individual investors growing faster than institutions with over 58% share in industry
- Equity overtaking other asset classes to become the prominent asset class
- Digital gaining traction, however, retail and HNI investors continue to rely on intermediaries
- Middle segment of the income pyramid to be increasingly relevant in future The attributes outlined above will be important to create an appropriate platform for the future growth of the industry.



The Indian mutual fund industry has seen tremendous growth in the last few years. However, the industry continues to be under-penetrated as compared to other large nations. AUM of mutual funds as percentage of GDP is at half or one third of other developed countries like US, Canada & UK and emerging markets like Brazil. Further, our estimates indicate that the mutual fund penetration across all Indian households is at <10% today. It is also under-penetrated in comparison with other financial services in India such as banking and insurance. India's asset management industry has the potential to reach INR 100 trillion of AUM in the twenties.



Achieving the INR 100 trillion milestone will require a significant shift in the shape of the industry. Such a significant shift will include:

- A 5x increase in investor base from 2 crore investors today to 10 crore investors
- Adding ~4 lakh new channel partners and investing in building a sustainable distribution network
- Equity to constitute >50% of AUM (vs. 45% share today) Reaching the 100 trillion vision will require various kinds of market expansion as shown in Exhibit 3.2:

1. Distribution outreach—increasing reach beyond metros and tier 1 cities.
2. Inclusion through simplification—expanding coverage to middle income households.
3. Deeper penetration into the savings wallet of existing and new investors.

## 7. CONCLUSION

Though the mutual fund industry has recorded significant progress on all fronts, yet it has not been able to utilize its potential fully. On almost on all parameters, it is far behind the developed economies and even most of the emerging economies of the world. The industry is confronted with a number of challenges like low penetration ratio, lack of product differentiation, lack of investor awareness and ability to communicate value to customers, lack of interest of retail investors towards mutual funds and evolving nature of the industry. Apart from this, the mutual fund industry has to continually deliver superior risk-adjusted returns to the investors. This would require the fund managers, on the one hand, to exhibit superior stock selectivity and market timing performance consistently and on the other hand to keep the fund costs under check.

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## Embracing Change and Transformation in Marketing Management - Vision 2025

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### ABSTRACT

Amidst swiftly changing marketing trends and consumer expectations, conventional marketing rules and clichés no longer hold any ground. The new era of the 21st century has placed a huge responsibility on marketers to not only be creative in delivering content but also target relevant customers through effective touchpoints. Apart from having innovative and analytic minds, marketers have to be up to date with the continuously changing marketing landscape. If you run a business, you have a hard nut to crack too. Meeting the expectation of today's consumers is a complex process that requires adjusting one's efforts to emerging trends. Being first, or among the top marketers, gives a competitive advantage. It's 2021, the pandemic's changed a lot, and the future of marketing needs to predict well in advance to achieve our mission by 2025.

**Keywords:** Virtual, machine learning, customer, chatbots, society

### 1. INTRODUCTION

Marketing is a key element in the success of a firm. Marketing supports the firm's growth and profitability. It arises from the fact that it involves several processes that are aimed at delivering value to the customers. Through marketing, a firm can create a mutually beneficial relationship between the firm and the various stakeholders. To be successful in its marketing processes, a firm must encompass the concept of marketing management. It's one of the most fascinating, as well as challenging, times to be working in the marketing domain. Catching attention and connecting with 2021 digitally savvy consumers to drive the message home is not so easy.

### 2. THE OBJECTIVE OF THE STUDY

- To study how new era shall place new demands upon marketers.
- To study how a marketing landscape can undergo a tectonic shift, its near future looks significantly different from its current state.
- To study how marketing managers evaluate various tools to offer more interactive, engaging, and personal experiences to their customers.

### 3. RESEARCH METHODOLOGY

The research methodology is qualitative with secondary data to study and embrace change and transformation in marketing management by 2025.

#### 4. OBJECTIVES OF MARKETING MANAGEMENT

Marketing management is aimed at attaining the following objectives as given below -

##### **4.1 Creating a higher level of customer satisfaction**

To achieve this, firms conduct thorough market research to effectively identify the customers' needs. As a result, firms can line up their production and distribution processes with the needs of customers.

##### **4.2 Increasing firm's market share**

One of the ways through which marketing management ensures the attainment of this is by improving its sales volume. Several strategies are adopted towards the achievement of the same. Examples of such strategies relate to organizing exhibitions, presenting free samples, offering sales discounts, and sales promotion.

##### **4.3 Increasing the firm's level of earning**

All the activities related to marketing management are focused on increasing the firm's level of earnings. This is consistent with the firms' profit maximization objective.

##### **4.4 Serving the society**

Apart from making sure that the firm's marketing activities contribute towards the achievement of its objectives, marketing managers are charged with the accountability of ensuring that the firm meets its social obligation.

This is achieved by formulating policies that result in the production and supply of high-quality goods and services at reasonable prices. Besides, marketing management is also aimed at ensuring that the firm delivers all the pledges it makes in the process of publicizing its operations.

#### 5. KEY TRENDS THAT WILL SHAPE THE FUTURE OF MARKETING IN 2025

##### **5.1 AI-first approach**

AI and machine learning have been at the top of every marketing trend list these days. From permitting more precise, real-time analytics and measurement; improving customer experience and support; improving product line pricing strategy to minimizing customer churn, AI and machine learning bring substantial benefits to marketing. AI-powered chatbots are being looked at as the next significant thing in customer relationship management as they can identify complex requests and personalize responses.

##### **5.2 Voice Marketing**

The increasing use of voice assistants by businesses of all sizes has opened new doors of opportunities for marketers. Many marketing experts are placing massive bets on voice assistants being the future of marketing as it lets contextual interactions with users and customers. Many enterprises are relying on voice-enabled technology as a tool that can assist them to promote personalization to a whole new level entirely.

##### **5.3 Virtual Reality will make a huge impact**

As marketers remain to look for tools to offer more engaging, interactive, and personal experiences, virtual reality appears as a clear winner. By permitting storytelling to engage, virtual reality enables users to connect with a brand with emotional intensity unimaginable with traditional media. It places the brand nearer to the customer and reinforces brand loyalty. Leading automobile makers and smartphone manufacturers are already at the forefront in using virtual reality for delivering overall interactive experiences

#### **5.4 Data will drive key marketing decisions**

Huge, untargeted broadcasting will become outdated and data will be at the heart of marketing strategy. Data is all over, which gives us key insights into customer expectations and buying patterns. As more and more devices—right from cars to home appliances continue to be connected—it will provide brands the opportunity to create smarter, customer-centric communication. By 2025, marketers will be slicing and dicing metadata for actionable insights and extremely specific marketing. Brands will use complicated combinations of personal data, location data, and environment data to aim their customers with the right message at the right time on the right device.

#### **5.5 Blockchain's potential will be delved into**

Blockchain is the latest buzzword around and is being hyped as a technology that can bring dramatic transformation to a wide range of industries. Marketing is nowhere distinct. With blockchain, marketing can tackle some of its biggest concerns and challenges. Determining privacy concerns, rising transparency in terms of identifying bots, and building consumer trust are some of the key areas where blockchain's potential is being evaluated presently. As with any emerging technology, there will be some challenges, difficulties, and learning in adoption.

### **6. CONCLUSION**

In short, the success of a firm is dependent on its marketing efficiency, which arises from the fact that the firm can align its operation with changes in the environment. Through marketing management, a firm can be able to improve its ability to succeed in the long term as a going concern entity. It is because marketing management is directly associated with other management functions such as planning, staffing, directing, coordinating, and organizing. Considering the dynamic nature of the business environment, marketing managers are increasingly focusing on several elements such as ensuring that the firm offers high-quality products. Marketing managers are now ensuring that all the firm's operations are focused on value addition. Establishment closeness with the customers, suppliers, and other intermediaries is also one of the trends which will be witnessed in the business field. Besides, there is also a trend whereby marketing managers are being concerned about increasing customer satisfaction. As a result, firms are growing their attention on retaining their customers.

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## Green Technology: A Contribution to Environment Sustainable Development in India

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### ABSTRACT

This research explains the concept of green technology and initiatives and practices that are developed by some companies in India. Green marketing is a concept which has gained particular attention in India and the modern world in the face of changing global environmental scenario for sustainable development. Consumer attitude towards green lifestyle has been changed because of increasing awareness of environmental issues. Green Technology involves a various range of activities that involves product modification, changes in the production process, packaging changes, Recycling, waste management and Wastewater treatment. This research highlights the companies in India which have applied great environmental initiatives.

**Keywords:** *Green Technology, Companies, Environment, Sustainability, Consumer.*

### 1. INTRODUCTION

Going green is not a choice but a need for humanity continuous existence. Green technology is the technology which is environment and eco-friendly, developed and used in such a way so that it should not disturb our environment and conserves natural resources which lead to sustainable development.

At the present time industries consume more energy than what it is essential, so it leads to more pollution. That's why it is needed to have a managerial system based on green processes and products to decrease the pollutions. Governments, corporations and industries all around the globe seeking for methods and techniques to diminish the waste, because the earth's environment is not in a proper situation today in terms of pollution for instance: water contamination, global warming and forest disappearing which are main difficulties for environment., green inventions are environmentally friendly inventions which often include energy efficiency, recycling health and safety concerns, renewables and more. The world has its fixed number of natural resources which some of them are already depleted or destroyed. Some people refer green technology as clean technology and environmental technology which is intended to protect environment and mainly to conserve natural resources. Green technology is created on the four pillars on various sectors. Government takes initiatives to promote green technology and introduced many fiscal incentives that generate electricity from renewable sources. sales tax exemption and Import duty for solar systems equipment, sales tax exemption for the purchase of solar heating system equipment from local manufacturers.

Green Technology is the development and application of products, equipment and systems used to conserve the natural environment and resources, which minimize and reduces the negative impact on environment by human activities. Following criteria refers green technology:

1. It minimizes the degradation of the environmental segments and natural resources;
2. It has zero or low greenhouse gas (GHG) emission is safe for use and promotes healthy and improved environment for all forms of life;
3. It preserves the use of energy and natural resources;
4. It promotes the use of renewable resources.

The following are the goals of green technology.

- To meet and cater the needs of society in such a way without damaging or depleting natural resources on earth is the main objective of green technology.
- To meet present-day needs without making any compromises. Focus is being shifted on making products that can be fully reclaimed or reused. By changing way of production and consumption, steps are being taken to reduce waste and pollution, as one of the important goals of green technology.
- It is vital to develop alternative technologies to prevent any further damage to health of human beings and other living beings and its advantages and their disadvantages of the green technology

## 2. OBJECTIVES OF THE STUDY:

The following are the objectives analysed through this study-

1. To understand the concept and need for Green Technology.
2. To understand the eco-friendly practices of Indian companies.
3. To analyzed the steps taken by the government towards a Green India
4. To understand the challenges of Green Technology.

## 3. LITERATURE REVIEW

Neeraj Kumar Sharma (2015) points out that environment issues like Global Warming, Waste Disposal, etc. Has led to the usage of Green Marketing practices but there is still hesitation in the minds of companies that the green marketing practices may increase production costs and reduce profits. This article gives examples of Indian firms that have achieved a good number of profits and customer satisfaction while going green. According to Douglas, the awareness of public towards the importance of environment has increase due to the climate changes that cause by pollution and the decrease of natural resources in the Earth. This will be a serious matter that will affecting everyone. Therefore, green will be the trend in construction projects in the future. By implementing the green practices in construction site, the awareness of construction industry will increase and mitigate the pollution that cause by construction works. According to A P Mani and S Bhandari (2019), Green Technology gained exceptional popularity because of environmental concerns and as a result, a new segment of green consumers was identified. The companies banked on this opportunity by providing to this newly discover segment a variety of innovative green practices. According to B Pal and C Sarin (2014), have discussed consumer responses to the GO GREEN campaign.

## 4. WHY GOING GREEN IS IMPORTANT-

The continued depletion of natural resources led corporations that have large energy requirements to become more environmentally aware than ever. As the environment is full of pollution and hazardous there is an urgent need to adopt the green environment before the things get worsen., Green initiatives also help to create brand recognition among customers.

The main goals of green technology are

1. Sustainability- Meeting the needs of the future without damaging or depleting the natural resources. Source reduction – The wastes and pollution to be reduced by changing the production and consumption patterns.
2. Innovation – Developing alternative to technologies to prevent further damage to the health and environment.
3. Viability- Economic viability of technologies and products that benefit the environment and truly protect the planet.

## 5. RESEARCH METHODOLOGY

As primary data was not possible during this covid-19 situation, only secondary data were collected from different authentic journals, reports, search engines, company websites and scholarly articles, research papers, and other academic publications related to green technology. In present scenario plays a vital role in nation's economic growth towards sustainability in the present and as well as future to enable a clean and healthy environment. Going green makes the environment nontoxic and environment friendly and does not pollute as it is necessary in this present situation to protect the environment.

## 6. MAJOR SECTORS OF GREEN TECHNOLOGIES

1. **Energy Sector:** Green technology is applied in energy extensive industries such as iron and steel, cement, pulp, paper, and other. Green Technology can be applied in all sectors of energy consumption and energy demand management programs.
2. **Building Sector:** Green technology plays a vital role in building sector. It makes the building more energy- efficient and sustainable. Many aspects of the building construction are entrusted to be chosen as sustainable and energy- efficient as far as possible.
3. **Water and Waste Management Sector:** Green Technology is used in the management of water and use of water resources by recycling them by cooling the plants, construction of buildings and concrete mixings.
4. **Transport Sector:** Green transportation is used for reducing the damage of environment from the vehicles of car, bus and public road transport. The vehicle users can shift their focus from fuel to green cars.

## 7. BENEFITS FROM GREEN TECHNOLOGY ADOPTION

Green technology offers a lot of benefits like recycling, purifying of water, air, conserving energies and protecting the ecosystems. Green technology does not emit any harmful pollution into the air and protect the environment and preserves the natural resources. By adopting green technology, the global warming effects can be minimized by reducing CO<sup>2</sup> emissions. By focusing on this type of production, the company can reduce the input costs, energy costs and operating, maintenance costs and electronic waste clearance which can increase a company's competitive position. In order to minimize the degradation of environment the concept of green technology should be adopted.

## 8. TOP GREEN COMPANIES OF INDIA

India is making rapid progress in industrialization. Many companies have voluntarily come forward to preserve the ecosystem and have taken a greener approach towards success. The top green companies in India:

## 1. WIPRO

Wipro announced an electronic waste clearance service in the year 2006 for its customers. In June 2008, it revealed an enterprise-wide charter called eco-eye to promote ecologically sustainable business practices. The eco-eye blueprint embarked several goals to reduce the organization's carbon footprint, manage its water and energy efficiently, develop new benchmarks in recycling waste, minimize the use of hazardous substances, and encourage employees to follow green practices in their professional and personal lives. The scope of Wipro's green technology initiatives included its internal infrastructure and operations; environment-friendly products, green computing solutions, and take-back services for its customers; as well as advocacy for e-waste legislation.

## 2. ITC

ITC's rigorous emphasis on minimising the environmental footprint of its operations and replenishing resources through largescale resource management initiatives within. It has adopted a low carbon growth plan as part of its multi-pronged strategy to combat climate change - maximising the use of renewable energy and sharpening energy efficiency in all units are important elements in this action plan. Currently, around 41% of ITC's energy comes from renewable sources - biomass, wind and solar. Several ITC units, including a number of top-rated super-luxury hotels, already meet their entire energy need from self-owned wind farms.

ITC also constantly attempts to reduce energy consumption in its operations through a variety of measures, mainly by deploying cleaner, more efficient technologies and by promoting awareness and a culture of conservation in the workplace.

- Optimizing packaging.
- Resource conservation.
- Over 99% of waste generated in operations is recycled.
- Enabling source segregation of municipal solid waste.
- Facilitating collection, re-use recycling.
- Moving towards a circular economy.

## 3. TCS

TCS has achieved its target of year 2020 of reducing its specific carbon footprint by 50% (relative to baseline year 2007-08). TCS has reduced specific energy consumption, which is the biggest contributor to TCS carbon footprint, by over 51.4% over the baseline year.

## 4. ICICI Bank

### Green Products & Services-

1. **Instabanking** - Bank has provided a variety of services under one roof and gives customers to convenience banking anytime anywhere through Internet banking, Mobile banking, Tab banking and Interactive Voice Response (IVR) banking. This has reduced the carbon footprint of the customers because they do not have physical statements or travel to their branches.

2. **Electronic Branches**- Banks have set up fully electronic branches where the customers can conduct all their banking transactions.

3. **E- Drive**-Bank has sent nearly 200 thousand annual reports in electronic form and bank have saved more than 60 tonnes of paper in the last quarter by sending e-statements to more than 6.5 million bank accounts and 300 thousand credit card customers.

4. **Vehicle Finance** - Bank encourage to customers to use environment friendly vehicles by offering 50 percent waiver on processing fee for those car models which uses alternate sources of energy like the Civic Hybrid of Honda, Tata Indica CNG, Reva electric cars, Mahindra Logan CNG versions, Maruti's LPG version of Maruti 800, etc.

5. **Home Finance** – The banks have reduced the processing fee for purchasing homes in Leadership in Energy & Environmental Design (LEED) certified buildings.

### Green Engagements

1. **World Environment Day**- Bank has celebrated World Environment Day every year on 5<sup>th</sup> June. On the occasion, bank has undertaken sapling plantation drive, along with PUC drive where employees were encouraged to get their vehicle's PUC checked and vendors were set up

2.'**Go Social**' campaign was launched for employees where every individual could post pictures of their green initiative on Facebook and twitter, and spread the word to families and friends to join in the journey to Go Green.

3.'**World Environment Week**' - Continued from June 09 to 13 with each day of the week representing a different green theme: No plastic day, Reuse paper day, Carpool day, Duplex printing day and Save energy day.

4. **'Solar Branches'**- Solar power is a source of renewable and non-polluting clean energy. Under the Bank's Go Green initiative, about ~300 rural low-cost branches have been fitted with solar panels. As a result, bank has generated 1440 units of solar energy per branch annually which led to the energy consumption cost has reduced considerably.

3. **Green Communication**- ICICI Bank has extensively capitalized the existing internal media and always insist to customers about Online Bill pay, Online Funds Transfer and Subscribing to e-statements for paperless" and "commute-free" mode of conducting banking transactions'.

### 9.CHALLENGES TO GREEN TECHNOLOGY

From a company's perspective, the following are likely barriers to adopting green technologies:

1. **High Implement Cost:** The initial investment and the implementation cost of green products are very expensive when the demand for that particular product is low.
2. **Lack of Knowledge/awareness:** The concept of green technology is not that familiar; the consumers are not aware of this technology.
3. **Time Consuming:** Green technology is a time-consuming process as it takes time to adapt to green lifestyle.
4. **Lack of skills:** There is no proper training to implement this technology.
5. **Alternative process technology is not known.**
6. **Uncertainty about performance.**
7. **Attitude and Market** There are old generation workers that are full of experience in the construction site and they are refusing to learn the new things and technology. They believe that the traditional method is the best for the construction work.
8. **Overcoming these barriers** is a complex process because it can involve a large number of parties, ranging from government, private sector, and NGOs to financial, research and educational institutions. Promoting green growth requires identifying and removing these barriers that hinder the large-scale dissemination of clean technology.

## 10. GOVERNMENT ROLE IN GREEN TECHNOLOGY

Climate change is fact and it is high time that nations and international organisations act on the ground. According to international report, India's position of Global Environment Performance Index fell from 141 in 2016 to 177 in 2018. every individual should be responsible for safeguarding our environment, government initiatives have played a huge role in helping find solutions to the problem. From building toilets to cleanliness drive through the Swachh Bharat Mission, the Modi government has time and again garnered people's attention and support for the right cause. some of the existing environmental initiatives by the government and their impact.

- Namami Gange Programme
- Green Skill Development Programme
- Swachh Bharat Abhiyan
- Toilets before temples
- Compensatory Afforestation Fund Act (CAMPA)

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## HR 2.0: Reinventing HR Management post COVID-19

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### ABSTRACT

The year 2020 had been a landmark year for the human race. It has impacted personal and professional life of people. The definition of employee experience that organizations had been living has turned broader as 2020 unleashed two very important aspect of employee experience: Health and Wellness. The pandemic taught many lessons and the most important of them was to give a priority to health, safety and wellbeing. The organizations have also accepted and incorporated it as a human resource management practice. Other than this, this year was also a year of digital transformation as it provided the masses a 'Work From Anywhere' environment. The research paper tries to study the new face of HR management in the light of these digital transformations. The paper aims to give a post Covid perspective to HRM.

### 1. INTRODUCTION

COVID-19 has brought a sea change in all walks of life and across all sectors. The most difficult part was played by the HR Teams of the organizations and provided the employees, response and assistance amid this pandemic. HR department faced many challenges and had to renew their working guidelines. Providing infrastructure and social support was a major challenge amongst others. Keeping the employees motivated and high spirited in the pressurized and depressing period was also a big challenge for the HR teams.

With the gradual acceptance developing around the globe, organizations have partially started working close to the way they did earlier but with the new set of policies. Hence the HR teams are reimagining their personnel practices.

Many new HR strategies are noted post covid-19:

Recruitment of right people is still a priority for the organizations. The remote interview methods have seen an immense success in the pandemic period and now organizations are rethinking the role of on campus interviews in the hiring process. During this pandemic, many talent gaps have been noticed which have to be filled by implementing re skilling programs. The pandemic has also posed a challenge in performance management due to the remote working of the employees. The teams must optimally utilize the employees and chalk out effective workforce plans and strategies. Hence all the organizations are trying hard to restore the equilibrium and progress by defying all odds that have arose due to Covid-19.

### 2. OBJECTIVES OF THE STUDY

- To study the problems faced by employees due to Covid 19
- To study the new HRM practices adopted by firms amid this pandemic
- To suggest the gaps in effective human resource management post pandemic

### 3. ISSUES FACED BY EMPLOYEES DUE TO THE PANDEMIC

In March 2020, when Covid-19 was declared as a pandemic by WHO, all the major organizations announced lockdown and accepted stringent measures of working. Suddenly

the focused working environment vanished, and the offices shifted to work from home in confined and secluded places. This transition has been going on from past one year. Such a long time actually brought a deep impact on all the professionals on a global scale.

As per the study published in Journal of Occupational and Environmental Medicine, the professionals have developed many health issues due to working from home during this pandemic. The major problem during work from home is the lack of job satisfaction. The employees, especially female employees, who have young kids can't concentrate and focus on work due to kids being around. The pandemic has also brought a major impact on the lower annual working groups. The pandemic has also led to an increase in the instances of depression due to lack of job security, lower job vacancies and also lower profit. Many organizations had reduced the salaries of the employees due to the hit to the profits, which has led to an increase in mental stress among employees. The pandemic has led to an increase in the working hours of the employees which has impacted the physical and mental well being of the employees. It is also increased the instances of neck pain and strain on eyes. The work from home culture has reduced the physical activity of the employees which has directly impacted the wellbeing of employees. The productivity of many employees has also reduced due to lack of dedicated workspace. Many employees have had experience technological issues while working at home during the pandemic. The lack of physical connection to co workers during the pandemic had led to the feeling of anxiety majorly due to lack of social support and increase in the workload. There have been no informal catch ups which is an important detrusor for the employees. Looking at these issues, it has become important for the HR terms of the organizations to reinvent HR Strategies for the employees.

#### **4. HRM STRATEGIES ADOPTED BY COMPANIES POST COVID-19**

##### **Google**

Google, being an employee-oriented organization had been a leader for safeguarding health and safety of employees during the pandemic. They recognized the importance of keeping employees connected. At Google, the employees are destressed by providing them exposure to learn different online skills and hobbies. Hence a culture of learning is maintained post pandemic. Google provides support to the employees by a creative initiative of making a mental health awareness group called Blue Dot. Also to bring a connection with newly joined employees, the program 'Virtual Coffee Ninja' is started. Google recognized the struggle many employees are going through due to loneliness and coping up with the transition. Hence at Google, managers regularly check in with their team members and hold open conversations to understand their story of transition. Google has also started an internal portal to offer tips to employees for working from remote locations like how to collaborate with team, have virtual team effectiveness and new normal work routine.

Google, being an agile organization strives to adapt to new normal by adopting these HR practices to maintain productivity of employees, enhance learning environment, ensure team effectiveness and maintaining high productivity.

##### **Facebook**

Facebook has redefined its communication with employees in times of crisis. Facebook encourages employees in affected areas to work from home. The organization is using Workplace Live Video to broadcast online summits thus cancelling in-person global conferences. Facebook has also proposed a landmark decision of asking around 48000 employees to work from home in coming decade. Mark Zuckerberg, Chief Executive of Facebook quoted that remote working is going to be a trend as well.

### **Infosys**

Infosys had been one of the first and foremost organizations who responded to the safety of employees. The organization has enabled 70% of the employees to work from home and restricting all non-essential travel. The organization has ensured operational readiness by implementing business continuity plans. The heads of the organization have also predicted that remote working model is here to stay post pandemic. The organization has experienced a lot of mobilization as they sent laptops to employees, ensured security and bandwidth, framed new policies for work from home and also provided broadband connections and Wi-Fi adaptors.

Infosys has maintained attendance, claims and learning by the app called Infy Me. They used internal app called Launch Pad which on boarded the employees on the company virtually.

Organization has trained employees by creating a lab in the cloud. Learning of the employees was maintained even during pandemic. The organization believes that now the definition of workplace is changing. Workplace is not a place where you come to work, it's a place where people collaborate and connect. Hence in future, probably employees will come at workplace for few days in the week for brainstorming and making plans.

Infosys uses platform I Engage to set up meetings with employees and track the work progress.

The organization is known for its ethics and governance. Hence the employees are given more ownership to make them ethical and build resilient teams.

The learning of employees at Infosys has triggered during the pandemic as taking certifications has more than doubled.

The leaders at Infosys spend time talking to employees how they think and feel in order to reduce anxiety and depression of employees hence taking care of the mental health of employees.

Leadership strategy of Infosys has radically changed as there is a need of more compassionate leaders who develop resilient employees.

### **Conclusion**

The study reveals that post covid-19, it has become important to reinvest in employees rather than just paying them well and providing a great workspace. The pandemic has made remarkable change in HRM strategies of the organizations making them understand the HUMAN angle of the employee workforce. It has made them understand that employees may have fear and issues which need to be managed by the employers. The HR teams will have to be reorient and rework their policies to accommodate the virtual work pattern.

The organizations will have to develop and maintain employee engagement practices like virtual learning and development, online family engagement practices, live sessions for new skills training, sharing best practices for maintaining health of the employees with providing guidance for exercise and meditation, informal virtual meets and more frequent social interactions.

Hence to provide uninterrupted service and high productivity in the organizations, the HR Teams will have a critical role to play in this new normal.

### **Suggestions**

The most important aspect yet unnoticed by the organizations due to the focus on restoring the pace of growth is to bring back the forgotten and ignored work life balance of employees. Due to the infinite working freedom that technological development and work from home facility provides, the limit of working has blurred. This may impact the productivity and

physical and mental well being of employees in future. Hence, Balance is the key in reinventing HR Management post Covid-19. That will be an ideal HR 2.0.

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## Inclusive Growth of India

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### **ABSTRACT**

Inclusive growth entails comprehensive growth, shared growth, and pro-poor growth. It lessens the fast growth rate of poverty in a country and upsurges the participation of people into the development of the country. Inclusive growth infers an impartial allocation of resources with benefits incurred to every section of society. But the allocation of resources must be focused on the intended short and long term benefits of the society such as availability of consumer goods, people access, employment, standard of living etc. Rapid and sustain poverty reduction requires inclusive growth that permits people to contribute to and benefit from economic growth. Rapid growth is necessary to reduce poverty but this growth to be sustainable in the long run, it should be broad-based across sectors and inclusive of the large part of the country's labour force.

### **1. INTRODUCTION**

The explanation of inclusive growth implies a direct link between the macro and micro determinants of growth. The micro dimension denotes the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms. Inclusive growth is defined by many academicians as the pace and pattern of growth, which are considered interlinked, and therefore in need to be addressed together.

UNDP has described inclusive growth as “the process and outcome where all groups of people have participated in growth and have benefited equitably from it”. This inferred that inclusive growth should include all sections of society as recipients as well as partners in growth and that inclusion of the excluded should be embodied in the growth process. According to Basely et el (2007), inclusive growth is the “ growth that has a high elasticity of poverty reduction”, i.e.it should have higher reduction of poverty, per unit of growth, sustainable growth record of society and it must be consistent with the growth reports. Strategies for sustained growth and inclusive development ( Commission on Growth and Development,2008), the commission found in report that Inclusiveness, a concept that incorporates equity, equality of opportunity and protection in market and employment transitions is an essential element of any successful growth strategy.

The inclusive growth approach takes huge perspective as the focus is on productive employment instead of direct income redistribution, as a means of increasing incomes for excluded groups. In the short run, governments could use income distribution schemes to weaken negative impacts on the poor, but transfer schemes cannot be an answer in the long run and can be challenging also in the short run .OECD study signified that even in developed countries, redistributable on schemes cannot be only response to rising poverty rates in certain segments of population.

### **MEANING:**

Inclusive growth is a concept that advances equitable opportunities for economic participants during economic growth with benefits incurred by every section of society. This concept expands upon traditional economic growth models to include focus on the equity of health, human capital, environmental quality, social protection and food security.

The definition of inclusive growth implies direct link between the macroeconomics and microeconomics determinants of the economy and economic growth. The microeconomics dimension captures the importance of structural transformation for economic diversification and competition, while the macro dimension refers to change in economic aggregates such as the country's gross national product (GNP) or gross domestic product (GDP), total factor productivity and aggregate factor inputs.

Sustainable economic growth requires inclusive growth. Maintaining this is sometimes difficult because economic growth may give rise to negative externalities, such as rise in corruption, which is major problem in developing countries. Nonetheless, an emphasis on inclusiveness –especially on equality of opportunities in terms of access to markets, resources and unbiased regulatory environment is an essential ingredient of successful growth. The inclusive growth approach takes a longer term perspective, as the focus is on productive employment as a means of increasing the income of poor and excluded groups and raising their standard of living in long time perspectives.

## **2. INCLUSIVE GROWTH WITH INDIA'S PERSPECTIVES**

Within the context of India, the Indian economy, which has undergone various phases since last many decades is currently enter an altogether different path, one marked by high rate of expansion, combined with inclusive growth. In the last few years, inclusive growth has been at the vanguard of studies supported by multilateral aid agencies such as the United Nations, the World Bank, Asian Development Bank and several non-governmental organizations(NGO).In India, governments have introduced several projects, such as Jawahar Rojgar Yojna, IRDP-Integrated Rural Development Programme, Rural Housing schemes such Indira Aawas Yojna, Swarnjayati Gram Swarajgar Yojna and MGNREGA-2006 i.e.Mahatma Gandhi National Rural Employment Guarantee Act to promote inclusive growth in India.Nonetheless, to boost inclusive growth in a country with the scale and size of India, private sector involvement is equally important for sustainable inclusive growth. The government and private sector both have imperative roles in driving inclusive growth. There is a need for the public and private sector in India to have a combined approach towards how they can extend, innovate and cooperate in innovative ways to enhance inclusive growth.

Inclusive growth in India focussing on creating more and more economic opportunities and ensuring equal access to them will play key role in coming years. More and more countries are accepting it as the goal of development policy. India, which had poverty reduction as the main focus of its development strategy over the last 50 years, has recently switched to a new strategy focusing on two objectives that include enhancing economic growth and making growth more inclusive (Planning Commission of India 2006).Inclusive growth as a developmental notion is also being comprised by many development partners of developing countries including bilateral and multilateral aid agencies, international organizations, NGO's and Civil society.

## **3. NEED FOR INCLUSIVE GROWTH IN INDIA**

Many intellectuals and government executives accentuated that inclusive growth is required for sustainable development and impartial distribution of wealth. For India, it is a tough task to accomplish inclusive growth. In a democratic country India, majority of population living in rural India and to bringing them into the mainstream is main concern. The challenge for Indian government is to take the levels of growth to all section of the society and to all parts of the country. The best way to realise inclusive growth is through developing peoples talents. It is said by government authorities that a multidimensional approach towards

education and skills development is essential to achieve growth. The challenge of skills shortage can be addressed through public private partnership. Since independence, noteworthy improvement in India's economic and social development made the nation to grow strongly in the 21<sup>st</sup> century. The following factors enable the India to focus on inclusive growth.

1. India is the 7<sup>th</sup> major country by area and 2<sup>nd</sup> by population. It is the 12<sup>th</sup> largest economy at market exchange rate. Yet, development is not visible in India and it's the neighbourhood nation, i.e., China is progressing at speedy rate.
2. The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divides, gender and socialine qualities, and regional disparities etc. are the problem for the nation.
3. Decreasing of poverty and other disparities and raising of economic growth are major objectives of the nation through inclusive growth.
4. Political leadership in the country plays a vital role in the overall development of the country. But, the study has found that politicians in India have a very low level of scientific literacy.
5. Studies assessed that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.
6. Through child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as their lives are spoiled to labour work.
7. Literacy levels have to rise to provide the skilled workforce required for higher growth.
8. Economic improvements in the country are overwhelmed by out dated philosophies and allegation by the politicians and opposition parties In India.
9. Achievement of 9% GDP growth for country as a whole is one of the boosting factor which gives the importance to the inclusive growth in India.
10. Inclusiveness benchmarked against achievement of monitor- able targets related to
  - a. Income and Poverty
  - b. Education
  - c. Health
  - d. Women & children,
  - e. Infrastructure
  - f. Environment
11. At global scale, there is a concern about dissimilarities and exclusion and now they are also taking about inclusive approach for development.

#### **4. ELEMENTS OF INCLUSIVE GROWTH**

Major components of the inclusive growth strategy includes a sharp upsurge in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers, increase in rural employment through a unique social safety net and a sharp increase in public spending on education and health care.

There are several interrelated elements of inclusive growth:

1. Poverty Reduction
2. Employment generation and Increase in quantity & quality of employment.

3. Agriculture Development.
4. Industrial Development.
5. Social Sector Development.
6. Reduction in regional disparities.
7. Protecting the environment.
8. Equal distribution of income.

Major elements of Inclusive Growth:

1. Agriculture Development
2. Industrial Development
3. Environment
4. Protection
5. Poverty Reduction
6. Employment.
7. Generation.
8. Reduction in
9. Regional Disparities
10. Equal distribution of income
11. Social Sector Development

#### INCLUSIVE GROWTH HAS MANY POSITIVE ASPECTS

1. Lower incidence of poverty
2. Broad-based and significant improvement in health outcomes.
3. Universal access for children to education.
4. Increased access to higher education and improved standard of education, including skill development.
5. Better opportunities for both wage, employment, and livelihood.
6. Improvement in provision of basic amenities like water, electricity, roads, sanitation, and housing.

For good inclusive growth there is a need of the SC/ST and OBC population. Women and children comprises for 70% of the total population and deserves special attention in terms of the reach of relevant scheme in many sectors. Physically challenged/minorities and other excluded groups also need special programmes to bring them in to the mainstream of society. To accomplish inclusiveness in all the dimensions requires multiple interventions, and success depends not only on introducing new policies and governmental programmes, but on institutional and attitudinal changes. System is continually changes. To approach paper on the 11<sup>th</sup> five year plan is titled:

#### “TOWARDS FASTER AND MORE INCLUSIVE GROWTH”

It reveals the need to make growth more inclusive in terms of benefits flowing through more employment and income to those sections of society which have been left out of the economic growth witnessed in recent years. The 11<sup>th</sup> plan gave a special push to several programmes aimed at building rural and urban infrastructure and providing basic services with the objective of increasing inclusiveness and reducing poverty.

### MAJOR CAUSES FOR LESS INCLUSIVE GROWTH:

There are several reasons for disrupting inclusive growth as discussed in detail below:

1. Growth has been jobless, and the employment growth has been declined for the same level of economic growth. Despite of remarkable growth which has made India the world's fourth biggest economy," employment in different sectors has not been rising. This jobless growth in recent years has been accompanied by growth in casualization".
2. Growth has been uneven or unequal across sectors, location and hence rising regional imbalance in India. For instance, agriculture has been lagging behind and in countries such as China, some regions have advanced faster than others. Policies are also relatively ignored the agriculture sector.

### Rapid rate of Globalization:

Due to trade competitiveness, foreign direct investment and new technology has demanded skilled labour. In some cases, labour laws are also often discriminate against formal employment and encourage 'casualization of labour'.

1. In India, there is need to create large scale jobs otherwise growth becomes, lower down. Millions of people are looking for structured work and unable to find it. The problem becomes more persistent when one factors in India's perspectives demographic "bulge" in the coming decades, as ever-increasing number of young people join the workforce every year before fertility rates fall and the population stabilizes around 2040 at about 1.5 billion. Economists project is as a "DEMOGRAPHIC DIVIDEND" could turn out to be a period of crisis marked by sheer unemployment and rising social unrests.
2. In Indian land, 60% of population is directly or indirectly dependent on agriculture. But the growth rate of agriculture is miserable, just 2%. Policy makers and government officials need to work on agriculture productivity, in order to be more inclusive. Lack of access to credit for agriculture and small and medium enterprises and lack of social protection have all contributed to the exclusion of deprived groups from the growth scenario.
3. A major weakness in the Indian economy is that the growth is not perceived as being adequately inclusive for many groups, especially Scheduled Castes (SC'S), Scheduled Tribe's( ST's) and other weaker sections.
4. Gender inequality is also a major problem and some of the structural changes taking place have an adverse effect on women. Growth will not be inclusive if some groups are discriminated against caste, class, religion, gender, region etc. Empirical evidence across the globe designates that group discrimination is largely on the basis of caste, ethnicity, gender and religion. These groups cannot be ignored for good inclusive of country.

Need continuous efforts to overcome this situation:

To overcome this situation we all need to be work collectively to have a sustainable and inclusive growth of country. This huge task cannot be done by government alone. Industry and civil society must partner with government to drive inclusive growth. Issues like income disparities and growing aspirations of many people must be collectively resolved by the government and society.

#### 4. CONCLUSION

To conclude, Inclusive growth is a notion that enables unbiased opportunities for economic participants during economic growth with benefits incurred by every section of society (Ranieri, 2013). Inclusive growth is the progress that reduces inequalities among per capita incomes in agriculture and non- agriculture, in rural and urban areas, and in different socio-economic groups, particularly between men and women and among different ethnic groups. The result of inclusive is lessening in vertical inequalities (group inequalities). In the context of India, its economy has grown at a remarkable pace since last decades as a result of numerous structural reforms to open up the economy and make it more competitive. Currently, activity has slowed that reveal not only the weak global environment but also the emergence of strains created by the pressure that rapid economic growth has put on energy, natural resources, infrastructure and skills.

Institutions, regulations and economic governance need to acclimate to maintain the economic transformation required for India to tackle its social and economic challenges. According to business leaders and economists, to boost productivity and promote the development of the formal sector, there is need to take adequate steps to strengthen business environment and support the introduction of new technology, including through fostering competition, further reducing international trade and investment barriers and improving of corporate and public governance.

This all steps must be necessary for sustainable India's inclusive growth for upcoming generations in future. This will also help India for its global political and economic leadership. Inclusive growth is necessary for just and equitable society based on equality and freedom. It will also create more employment opportunities by increasing infrastructural development. This process is must for India's growth and development, this will also increase to social and financial inclusiveness incoming India.

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## IoT Based Smart Agriculture Monitoring System Using Arduino Uno

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### **ABSTRACT :**

The paper represents the concept of featuring smart agriculture monitoring system which is embedded with arduino, sensors, actuators and mobile connectivity. It reflects the future scope of the smart agriculture with wide usage of advanced farming equipments. This paper demonstrate the idea of transformation to fast advance farming from the old culture farming.

**Keywords:** *Arduino uno, Sensors, Actuators, Android, IOT.*

### **INTRODUCTION**

Agriculture is done in every country from ages. Agriculture is the science and art of cultivating plants. Agriculture was the key development in the rise of sedentary human civilization. Agriculture is done manually from ages. As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. IOT plays a very important role in smart agriculture. IOT sensors are capable of providing information about agriculture fields. we have proposed an IOT and smart agriculture system using automation.

This IOT based Agriculture monitoring system makes use of wireless sensor networks that collects data from different sensors deployed at various nodes and sends it through the wireless protocol. This smart agriculture using IOT system is powered by Arduino, it consists of Temperature sensor, Moisture sensor, water level sensor, DC motor and GPRS module. When the IOT based agriculture monitoring system starts it checks the water level, humidity, and moisture level. It sends SMS alert on the phone about the levels. Sensors sense the level of water if it goes down, it automatically starts the water pump. If the temperature goes above the level, fan starts. This all is displayed on the LCD display module. This all is also seen in IOT where it shows information of Humidity, Moisture and water level with date and time, based on per minute. Temperature can be set on a particular level; it is based on the type crops cultivated. If we want to close the water forcefully on IOT there is button given from where water pump can be forcefully stopped.

### **2. OBJECTIVES**

- Implementation of Growing Technologies in Agriculture.
- Reduce the human power with automations.
- Maximized productivity and Less time consumption.
- Improved quality as we growing toward smart farming.
- To stay updated with fields crop conditions.

## 2.1 Purpose

The agriculture is one of the important field or sector which needs to stabilize the global market. The demand of agriculture is much more increasing day by day. But the main problem is that it is the slowest process of working with old farming methods.

To overcome little bit on this problem we can accelerate the farming process with the help of advanced technologies to make a smart agriculture. Which includes usage of Sensors, Applications, Automatic machines , etc .

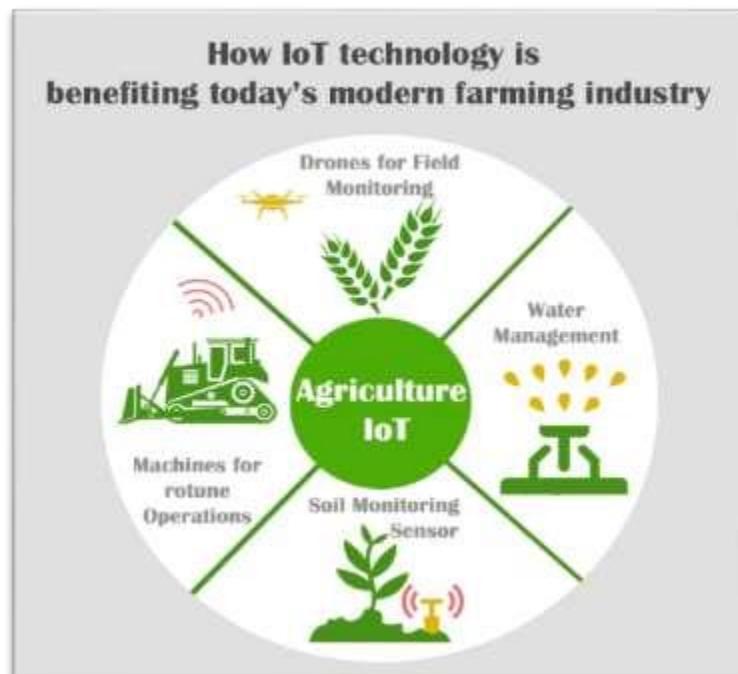
We know that there is a huge need of human power in the agriculture, but the cost of workers or labours is increasing as well. So, we can invest that money on the smart agriculture Appliances needed in farm.

Farmers gets updates of fields time to time on their mobile phone so there will be awareness to the farmers which leads to reduce to any damage to crops.

## 2.2 Scope :

The IoT can perform vital role in agriculture with various forms. IoT binds the real-world things in a network that are useful and convenient to perform the task. This Monitoring System has some sensors and actuators to perform given task but we can also use Various Control Systems, Autocoups Vehicles, Automated Hardware, Drones, etc to make a Advanced Farming.

- Monitoring Systems keep the regular data of equipment's so we can schedule the maintenance for machines.
- Optimal use of water supply that can reduce wastage of water & overhead expenses.
- Estimating correct planting time.
- Climate conclusion with the help of relevant sensors data.
- Monitoring System can be used in greenhouse automations and control systems.
- 



### 3. IMPLEMENTATION

#### 3.1 Problem Definition:

The Agriculture is one of the hardest fields to work. It needs more human power to manage lots of

different tasks. That's why the growing technologies can overcomes the hardworking problems and can give a suitable output.

Due to the lack of usage of advanced equipment's in farming, the productivity of agriculture doesn't match to the actual expectations. So we can use various aspects of IoT's in smart agriculture. There are lots of things that can be Automate and taking the perfection in the output of that work rather than manual.

Due to lack of accurate information about the field, weathered, the farmers are not able to do the pre planning for the crops. So, with the help of this system, he can monitor the field condition very well by getting a notification on his phone.

#### 3.2 Preliminary Product Description

The core of this project is an Arduino which will manages the overall functionality of the model. We used some sensors here to access the inputs from environment. The Temperature sensor, Soil moisture sensor, water sensor. Temperature sensors will give the data of current temperature, Soil moisture sensor will detect whether the soil is getting dry and water sensor will inform if water has gone down from particular level.

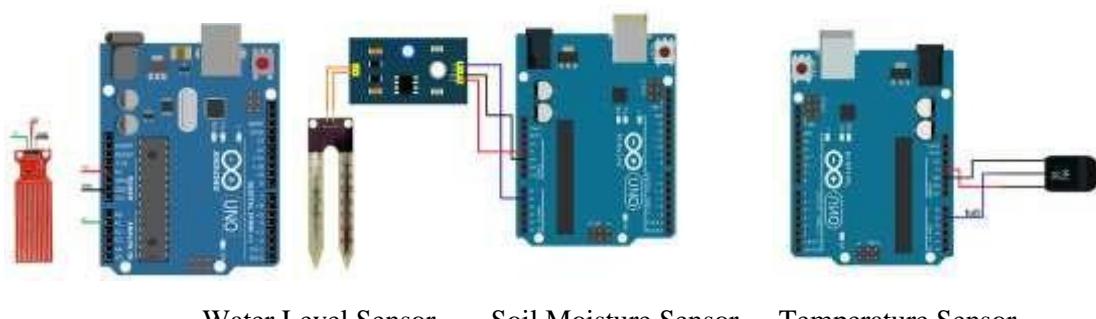
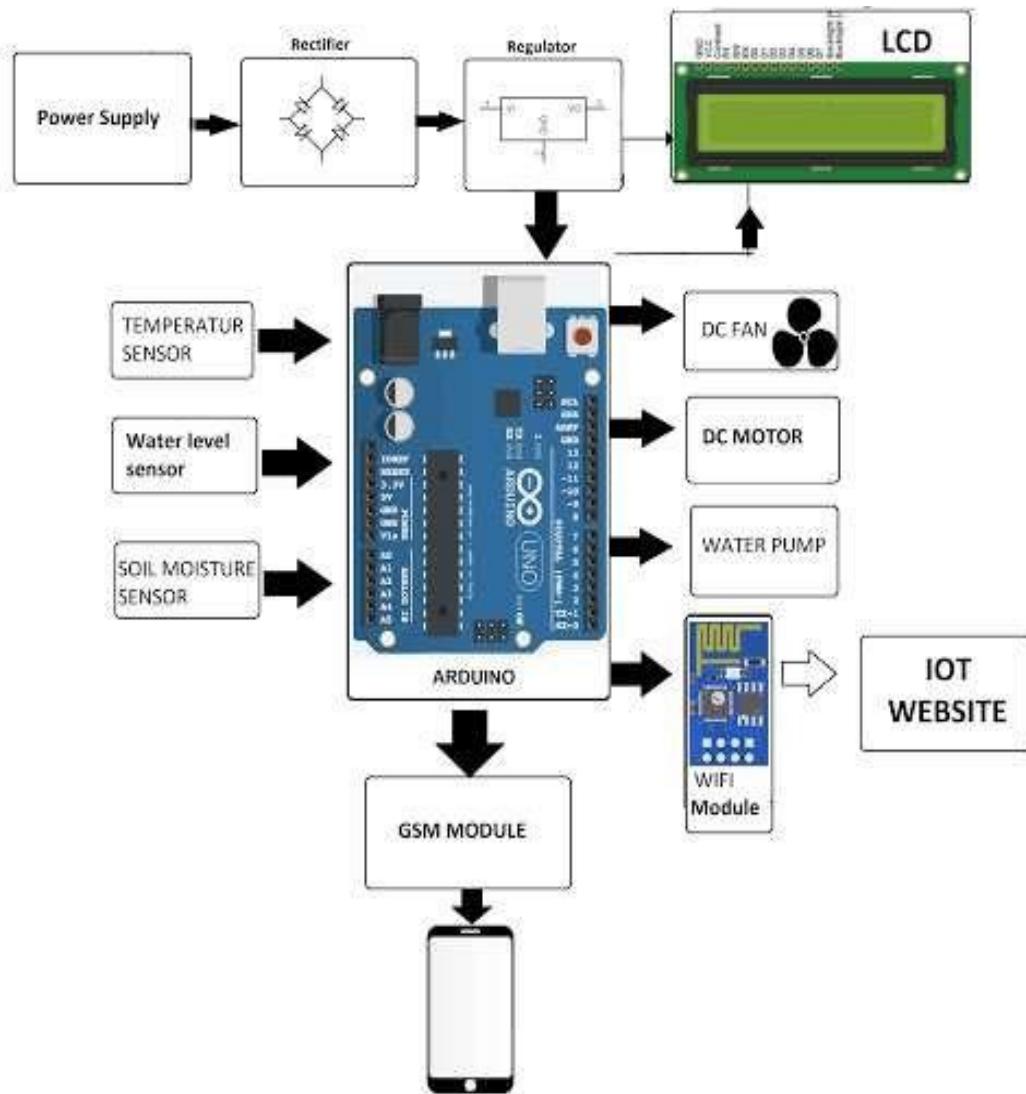
The Arduino will get the data from these sensors and will give the preloaded commands to the actuators.

If temperature will be high, then fan will run automatically. The DC motor will get turn on to regulate the water if water from the water tank has been goes down. The water pump will regulate the water whenever soil will get dry. These all data is displayed on the LCD screen allocated in the farm. And the GSM module will notify these data of farm through mobile device.

The all changes or the data of sensors can be monitor on our mobile device. We can see the sensors data through android app so it will be helpful for the farmers to know their filed conditions.



### Block Diagram:



Water Level Sensor

Soil Moisture Sensor

Temperature Sensor

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## IT – A Tool to Accelerate the Pace of Education

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### **ABSTRACT**

Education is an essential aspect for personal growth both internal and external, social development, national prosperity and global civilization. Many factors affect the education and education system as a whole and Information Technology is one of them. Information Technology provide the base and platform through which education can be imparted in a more clear, concise and faster way. IT in itself is a vast field covering many tools and techniques. This paper focuses on some important and latest technologies which is affecting education at 360° dimension. This paper covers cloud-based services(virtualization), Geographic Information System, Integrated Development Environment and Online platform in relation to education. Aim of this paper is to enhance the understanding and application of these technologies which can be used as a significant tool to support, accelerate and impart education. Education sector can reach to the greater height by 2025, by holding the hand of technology.

**Keywords:** *technology, Tool, Education, Cloud, Geography, Information, Internet, Services*

### **1. INTRODUCTION**

Education one of the basic needs of every human being, has undergone several changes, from the time when education was given under a Pepal tree in Gurukul to the today's time where it is given by someone who is sitting 1000's of Kilometres apart in some other part of the world. The world has become a global classroom. There are several factors that has contributed to the growth in the education sector, but the main credit goes to Information Technology. Technology has empowered education sector. Technology means anything that accepts, stores, manipulates, analyses and present information in digital format. Technology in itself is a vast field covering Artificial Intelligence, cloud computing, Geographic Information System, Big Data, bots, Integrated Development Environment, Internet, augmented and virtual reality, Natural languages etc. Over the past few decades, we have seen a rapid development in the technology. IT has provided such a strong infrastructure on which education sector is growing and will grow at ever increasing rate. In the coming years artificial intelligence, augment and virtual reality will take a lead. By 2025 everything will be connected by data and smart either it is classroom, exam assessment, management, degree distribution etc. It won't be wrong to say 2025 will be true digital era and will empower students to be employed and successful.

## 2. TECHNOLOGIES, THEIR USAGES AND BENEFITS

This section focusses on selected technologies, their purposes, relation with education sector and their future prospects.

### 2.1 Cloud Computing

- Cloud computing refers to on demand services provided over the internet. It provides three types of services – Infrastructure as a Service, Platform as a Service and Software as a Service. These capabilities are stored remotely at the server and provided to the client through internet on demand.
- Education sector has enormously benefited from cloud-based services. It has reduced the necessity for infrastructure.
- Cloud computing in education sector helps students, teachers and administrators in the same way. Cloud computing allows students access to homework, perform and submit wherever there's an internet connection, teachers can instantly upload assignments, learning materials and administrators can easily team up with one another and save money on data storage.
- Cloud computing has brought teachers and learners together on a single, unified platform. Educational establishments such as schools, colleges, and universities don't need to buy, and maintain their own servers and data centres. Instead, they can borrow and buy cloud computing services to avail computing power, databases, storage, and other services. Cloud storage also provide data security, data is under the strict security of server.
- Cloud computing helps to reduce cost in education.
- Few examples are - The Google's G Suite apps all reside on the cloud. A special classroom version - G Suite for Education, includes extra features for apps like Google Docs, Sheets, Drive, Gmail and others. With the Explore tab, students can use natural language to input formulas in Sheets or get layout suggestions in Slides. Another product, Google Classroom, links Google's online cloud applications (like Calendar or Docs) so it's easier to complete or schedule assignments using a central hub.
- Office 365 Education is Microsoft's free of cost special version for students and educators: Office 365 is cloud-based version of Microsoft Office, which includes apps like Microsoft Word, PowerPoint and Excel. Instead of buying and installing software in hard drive, students and educators can set up an Office 365 account and save all Office documents to the cloud for easy access. Office 365 Education has additional classroom tools.
- Cloud based applications help teacher to create interactive lessons, activities and quizzes, and then assign them to students.
- Another example is Cloud Guru which is an online database system of courses designed to teach and train people in cloud computing.
- All the sectors and industries are incontestably being benefited by the Cloud technology, education sector also depend upon the cloud technology for making the knowledge sharing enhanced, empowered, and simplified.

### 2.2 Internet (Online Platform)

- Internet or Online Platforms has generally been a medium of communication. People from one point of the globe could communicate with someone at some other point because of the internet. But eventually because of its speed and efficiency it has

become multi-functional. Now internet is used for several purposes such as education, business, agriculture, infrastructure etc.

- Online Platforms have capacity to provide multiple applications while using them. For instance, a tutor taking a lecture online, not only can communicate with the students from distance but also can use different tools like Excel, PowerPoint, and Google Jam board to make the content and interaction more efficient.
- Online Platforms provide the flexibility of time which makes the two-way communication much easier. With the availability of virtual classrooms, the data can be stored on cloud as well as the device itself, so that it can be retrieved in no time. For instance, a student is asked to submit an assignment online, the student can have the document stored on cloud and submit it anytime.
- Reducing costs and use of other resources while surfing through online platforms have always had an edge. Interestingly, online education provides the same knowledge as traditional education but with more interactive tools, higher quality, much more definitive experience and all of that for least cost of any sort of resources.
- Online Platform has nowadays even started providing degree in almost every stream be it engineering, medical, humanities etc. which also shows not just great value but is also accessible for the people who have a low economic background. Today, a student sitting at any far end of the globe, may be a village too, can study and understand interactive and free courses from some of the world's top universities like Harvard, Stanford, Oxford, Cambridge etc. all because of the availability and efficiency of online platform.
- With platforms such as Google Meet, Microsoft Teams, zoom etc. online education has achieved new heights. Earlier students had to view pre-recorded courses and then did lack the opportunity of one-to-one interaction. But now, because of those platforms, online lectures are conducted and with a participant capacity of 1000+ and streaming services offered by YouTube and Facebook, a professor sitting at his own home, can give lectures to students across the globe.
- For years, online platforms like Udemy, Coursera, Edx and others have shown variety of contents to learn, but still their certifications lack a bit of value in the market. People still have a positive side for traditional educational approach which is great but people also do need to understand that with the pacing world, everybody needs to catch up and not everybody can travel to a better place for pursuing education at large expenses. People need to understand that online education is the only solution to this problem and the future generations depend upon it.

### 2.3 Integrated Development Environment

- Integrated Development Environment (IDE) is a collection of technologies which serves as a simplified mechanism in developing and testing of codes from various languages. It generally consists of word-processor, a debugger, a compiler and execution of applications of various programs.
- IDE has enhanced the ways of teaching methodology over the time in terms of programming. With more efficient technology and execution power it has to come to a point from where growth in the education sector is unshakable.
- Educators at any level have seen vast increase in the number of students who have chosen IDE for programming instead of different software's for various languages. The more a student finds it convenient to learn, the less efforts are required by the educator to teach.
- IDEs such as NetBeans, Eclipse, Visual Studio etc. are efficient in many ways be it cost, speed, storage, availability of languages etc. They are generally available for free

of cost and also do provide cloud-based data storage for specific versions as to save the space in user's device.

- Earlier, people had to install a particular application for coding in the required language and another set of applications for other purposes such as database, cloud connectivity etc. but with the increase in efficiency of IDEs, all those applications are now condensed into a single one – The IDE itself.
- Students who face trouble in getting started with new languages have felt relief in understanding and coding in them because of the interactive user interfaces of the IDEs. With the multi-lingual support available, students or coders can easily shift between languages according to their convenience without installing extra resources.
- In the coming years, it will become a necessity for coders, students and others interested in programming to use IDEs because of their speed, variety, interactive interfaces, multi-lingual support and also development of major technologies such as machine learning, artificial intelligence and others will become more convenient because of the IDEs.

## 2.4 Geographic Information System

- Geographic Information System (GIS) is a branch of study which uses geographic information such as maps, positional and attribute data for collecting, organizing, managing, manipulating and analysing spatial data in order to make efficient and precise decisions. It has wide applications associated to education, security, engineering, planning, management, environment study, transport, insurance, telecommunications, and business.
- Main aim of GIS is to enable students analyse data using various GIS tools and techniques for better decision making and help them in study of geographic concepts, applications, and systems.
- In the last few decades, it was only used by big organisations but now its capabilities and proficiency has made it available for common people also especially students. Today, educating students to develop better infrastructure and understand complex geographic phenomenon, GIS plays a vital role.
- At different levels, students are taught different applications of GIS and also its practical usage helps in analysing as well as predicting geographic changes across the globe. Educators find it very convenient to teach students through GIS software and also conduct practical's using the same.
- GIS has become an essential industry too. Employment and job opportunities in this sector have increased in the past decade. Several MNCs, such as Google, Uber, and Amazon now require GIS experts in order to help in various process such as supply chain and logistics, data analysis, prediction of weather phenomenon etc.
- Some commonly used GIS software's such as QGIS, ArcGIS, GrassGIS, and SAGA GIS have shown sharp increase in usage especially among students. Technologies related to planning, navigation, telecommunication etc. need GIS for better analysis and decision making and thereby students who can be future experts in the said field, need to get familiar with different tools available for GIS studies.

## 3. OBJECTIVE

- To illustrate that IT has helped in the growth of education sector.
- To prove that IT will help education sector to grow in all dimensions by 2025.
- To give insight how information technology has made education easily available to all
- To prove that IT has made the complicated concept simple to understand

- To show that IT has made education cost effective
- To illustrate that IT has provided global platform to the learners.
- To prove that IT has made the learning process easy.
- To show that IT helps to implement the concept with the less effort.

#### 4. RESEARCH METHODOLOGY

To meet the objectives of this paper, the methodology is as listed below-

- Research is based on primary data, so the first step is to create a questionnaire through Google Form.
- Undergraduate students are the targeted respondents, so second step is to circulate the form and collect the data from the Undergraduate students (50 respondents approx.). The sample is a mixed collection of male and female between the age group 18 to 22 years.
- Success and quality of output is dependent on quality of input, so the next step is to prepare the data, remove any anomalies or extreme data.
- Next step is data manipulation.
- Next step is to analyse the data using various tools and techniques using Microsoft excel.
- Final step is to present the outcome with the help of tables and charts.

#### 5. DATA ANALYSIS AND INTERPRETATION

Data analysis and presentation has been done through Google Spreadsheet. Questionnaire to meet the objective consists of nine question in varied domain. Responses are recorded in google sheet which is further analysed to derive inferences. Out of 50 respondents 30% are female respondents and 70% are male respondents.

Outcome of the responses have been summarized in the following table.

Question	Option 1	Option 2	Option 3	Option 4
How often you use technology during your education	Every time	Frequently	Some Time	Never
	74%	20%	4%	2%
How cloud services have affected the cost of education	Increased the cost	No difference in the cost	Reduced the cost	Can't say
	28%	24%	34%	14%
How Integrated Development Environment (IDE) has affected the teaching - learning and software development process	Made the process simple, fast and easy	No difference	Made the process complicated, slow and tough	
	94%	4%	2%	
Using Information Technology concepts can be understood and implemented	Very easily	Fairly good	Can't be understood	
	56%	42%	2%	
How frequently you use online platform for education	Always	Regularly	Need based	Never
	32%	50%	18%	

	Effective	Non-Effective	No difference	Can't Say
	74%	10%	8%	8%
Technology provides global platform to the students	Agree	Disagree	Neutral	
	96%	2%	2%	
Information Technology has made education related content and resources easily available to all	Yes	No	Can't Say	
	92%	4%	4%	
How frequently you use cloud services (storage, online software etc.)	Always	Some times	Rarely	Never
	42%	48%	8%	2%

Table 1: Summary of Questionnaire Responses

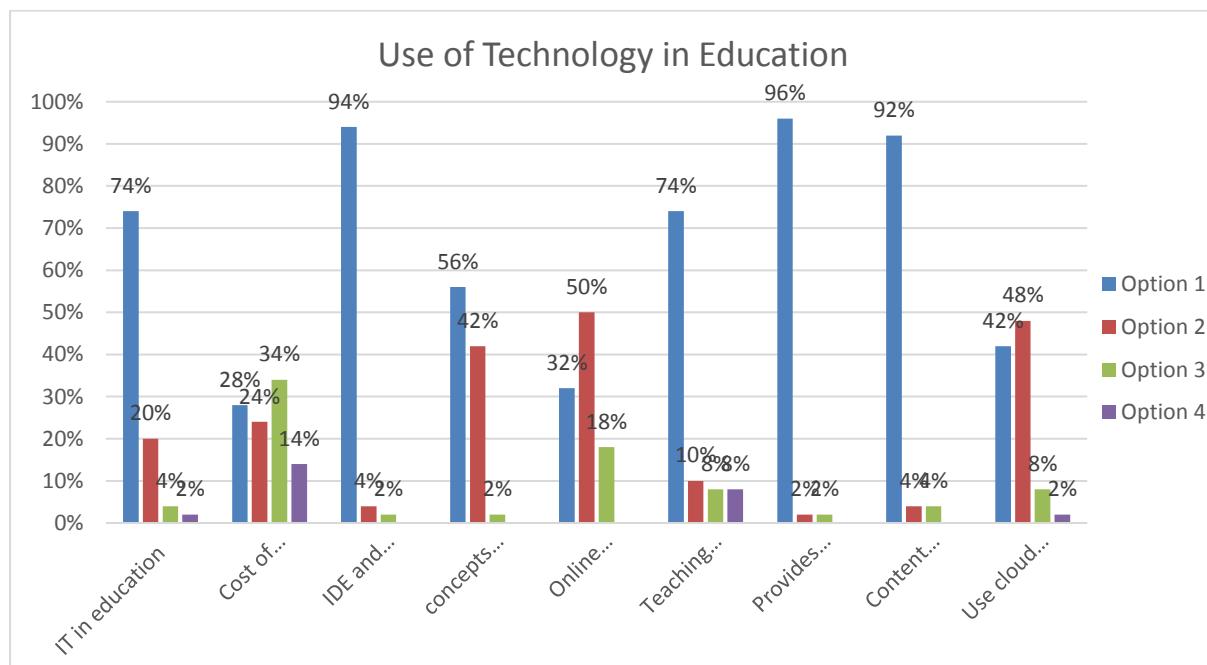


Fig. 1: Use of Technology in Education

- Above chart illustrates that 74% of the population use technology every time during their studies.
- 34% of the respondents have the opinion that the use of technology has reduced the cost of education overall.
- 94% of the respondents believe that Integrated Development Environment which is the collection of technologies at a common platform has made the education and software development process easy.
- 56% of the students are of the opinion that through technology concepts can be understood in an easy and convenient way.
- 50% of the respondents use online platform such as Google Meet, Zoom, Google Classroom and other virtual methods for education.
- 74% of the respondents believe that virtual platform either it is for lecture, assignments etc are easy to access and very helpful.
- 96% of the students agree that IT has provided global platform.
- 92% believe that online they get all the required material for their learning.

- 45% of the students are using various services provided by cloud computing.

## 6. CONCLUSION

In the light of above research work and discussion, it can be concluded that information technology is a tool that has been supporting and can further accelerate the growth rate of education sector. Today almost every learner, teacher and admin people use technology in one or the other way. Internet, cloud, virtualization, data house, everyday ever-growing new techniques, application, languages, IDE's, online courses, online content, online forum, online platform has provided sustainable growth to the education sector. IT has not only made the education easily available and accessible to all but also cost effective. These technologies are growing all leaps and bounds and so the education sector. Technology is providing such an infrastructure on which a strong and wide monument of education system can be built by the year 2025. By 2025 the whole world will become a classroom. Education can be made available at fingertips and 24X7.

I conclude with these words “IT is the engine of the sail boat on which Education can sail with a great pace.”

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## Microfinance in India

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### ABSTRACT

This paper highlights the evolution of the Microfinance revolution in India as a powerful tool for poverty eradication. Where institutional finance failed Microfinance has delivered, but the outreach is limited. Microfinance programmes allow small loans to weaker section of the society by introducing self-employment generation scheme which helps them to earn revenue, an efficient tool for earning their livelihood independently. Microfinance programmes provides opportunities limited to credit but also render services in the form of skill training and development in the remote areas of our country. This paper is an attempt to find out the challenges and issues relating to microfinance.

**Keywords:** *Microfinance, Small Loans, self-employment, Poverty, Skill training*

### 1. INTRODUCTION

Microfinance was introduced in India in the 1980s as a answer to rising poverty and to empower women. It is a type of banking service provided to those who have difficulty in getting access to formal credit. The institutions supporting microfinance offer services such as providing small loans, helping to open accounts, and also providing micro insurance products. In developing countries like India, financial services through formal sources of credit do not meet the demands of the weaker sections of the society. So, microfinance can help the small-scale businesses to grow and thrive by providing greater financial stability. Despite its strong potential the micro finance sector faces certain challenges related to accessibility in rural India.

One of the major reasons for the insufficient outreach or failure of formal banking system in India while advancing credit to the rural poor is the absence of proof of recognised employment or collateral security that can be offered by the poor while availing loans. This leaves the poor with no other option but to borrow money from the moneylenders at higher rates of interest and get stuck in the vicious circle of poverty and exploitation.

### 2. MICROFINANCE STORY IN INDIA

The steppingstone towards microfinance started in India with the formation of Self-Employed Women's Association (SEWA) in Gujarat, which established SEWA Bank in the year 1974. Since its inception, this bank has been rendering financial services to individuals who aspire to grow their own businesses in rural areas. One such successful initiative is Kudumbashree, the Kerala State's Poverty eradication Mission that was launched in 1988. This is a female led community organization of Neighborhood Groups (NHGs) proving a platform for the women belonging to rural and urban areas to come together and fight for their rights and helps to empower them. Through these groups, women work on numerous issues like health,

nutrition, education, agriculture etc. They can even collect income and seek microcredit while working under this scheme. Such small-scale initiatives help to promote financial independence in the underprivileged sections of our society. There is always a need to provide microfinance facilities to serve India's large rural population.

### **3. IMPORTANCE OF MICROFINANCE**

Almost half of the population of our nation does not have access to basic savings account. However, every segment requires financial services so that their dreams can be fulfilled. With the help of microfinance, the financially underserved get access to capital helping them to become self-sufficient. If microfinance institutions were not offering credit to the vulnerable section of the society, then these groups would have been resorted to borrow money from the moneylenders or family members. Microfinance helps these groups to invest wisely in their businesses, and hence is in the alignment with the government's goal of financial inclusion and inclusive growth in the country.

#### **3.1 Types of Microfinance-**

1. Microloans: These loans are significant as these are provided to borrowers with no collateral security.
2. Micro savings: These accounts allow businesses to operate savings account with no minimum balance. These accounts help entrepreneurs develop financial discipline and develop an interest in saving for the future.
3. Microinsurance: It is a kind of coverage provided to borrowers of microloans with lower premiums than conventional insurance plans.

#### **3.2 Microfinance Channels-**

In India, microfinance operates primarily via two channels-

##### **A. SHG- Bank linkage Programme (SBLP)-**

This channel was initiated by NABARD in the year 1992. This model encourages financially weaker women to come together to form groups of 10-15 members. At regular intervals the members of the group contribute their individual savings to the group. Loans are given to the group members from these contributions. SHGs also offer bank credit at later stages, and these loans can be utilized for funding income generating activities. This model has achieved a lot of success and popularity for empowering women in the country.

##### **B. Microfinance Institutions (MFIs)-**

These institutions lend through the concept of Joint Liability Group (JLG), which is an informal group that comprises of 5-10 members who apply for loans either jointly or individually.

### **4. CHALLENGES OF MICROFINANCE IN INDIA**

Microfinance has been praised by many, as it is a clear passage to eradicate poverty, aid the marginalised sections of the society, reduce unemployment, and improve their earning capacity. However, it has also received criticism from certain segments, as it was argued that microfinance made poverty worse. Running a microfinance programme in rural India comes with some significant challenges:

**1. The outreach is limited-**

The microfinance delivery models fail to concentrate on individuals who are below the poverty line as they are deemed to be risky. There is a prejudice whilst selecting beneficiaries for the scheme. The operators of the scheme select economically stable persons as the programme beneficiaries to run the programme successfully. Therefore, only a limited extend of the people are benefitted from these schemes.

**2. Restricted spread in the poorer states-**

The extent of microfinance programme is low in the states where a large percentage of the population lives in poverty. The successful distribution of microfinance programmes depend on the support provided by the respective state governments and the concentration of MFIs in these regions.

**3. Higher interest rates-**

Higher rates of interest on loans weaken the economic status of poor clients discouraging them further. The main reason behind this is poor regulation of interest rates in the microfinance sector. Even though some MFIs have regulated interest rates but they impose transaction costs leading to increase in the burden making borrowing less attractive.

**4. Lack of awareness of financial services in the economy-**

Though a developing country in the making, India has a low literacy rate, which is still moderate to low in rural areas. This lack of adequate information is a major issue that keeps the rural population away from accessing MFIs for easy credit to meet their financial requirements.

**5. SUGGESTIONS**

Although the microfinance sector is plagued by numerous issues and complications in delivering proper financial services, there is still ways to improve and solve these problems experienced by the sector. Improvements are required from the side of the state and central government, MFIs and microfinance clients. Some of the recommendations are-

1. Playing the vital role of a substitute to banks in areas where people are financially illiterate and severely underbanked, MFIs need to provide a complete range of products to help the poor and vulnerable people break the cycle of poverty.
2. It's important to have a proper regulatory environment that not only protects the interest of stakeholders as well as promotes future growth of MFIs.
3. Apart from the government initiatives, we the people of our country should create the awareness about microfinance.
4. Field supervision is also equally important encouraging MFIs to abide by proper code of conduct and work in the most efficient manner.
5. It is also recommended that uniformity in the interest rates is extremely important to be charged by all the MFI players in the market, which would give the beneficiaries the freedom to compare different financial products before availing.

**6. IMPACT OF COVID-19 ON MICROFINANCE**

The Covid-19 pandemic has disrupted operations in every sector of the economy across the globe. The MFIs also are badly hit. At one side, they are suffering from the non-payment of

loans by their borrowers, on the other hand, they must fulfil their commitment of repaying their lenders (Banks, NBFCs/ other FIs). The major highlight of this sector has been its high level of connect with the customers. But due to the pandemic, this connect was badly affected.

The response from the MFIs during these tough times was sensible and matured. They asked their field supervisors to conduct virtual meetings wherever possible or through phone calls counselled the borrowers. Still the question remains, will this sector bounce back? The answer lies in the study of past trends only, how every time this sector has bettered itself after every crisis. So, this sector will continue to survive and develop after this mega crisis as well.

## 7. CONCLUSION

This study concludes that microfinance in India is especially important tool for poverty eradication and to achieve financial inclusive of the poor in rural and urban areas. In the current scenario, the gravity of this sector is even more. The individuals at the bottom of the pyramid would require more credit to start their businesses. The inability of MFIs in getting adequate funds is a major challenge in the microfinance growth and so these institutions should look for alternative source of funds. The impact of microfinance is appreciable in bringing confidence, courage skill development among poor people. The MFIs would play a vital role in achieving their client's credit demands. The faith between the microfinance clients and MFIs is still intact.

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## Mobile Computing: Issues and Challenges

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### ABSTRACT

Mobile Cloud Computing (MCC) is an emerging field. Due to the wide usage of mobile devices and variety of applications, mobile cloud computing becomes a necessary part for mobile devices, due to reliability and portability as data processing and storage take place outside of the mobile. Mobile cloud computing integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance (e.g., battery life, storage, and bandwidth), environment (e.g., heterogeneity, scalability, and availability), and security (e.g., reliability and privacy) . As mobile Cloud computing is still in early stage of development, it is useful to build a thorough understanding about existing models and future trends .The purpose of this survey is to analyze and point out the major issues and challenges and risk involved in the mobile cloud computing as well as present new trends in this field.

**Keywords** – *Cloud Computing, Mobile Computing, challenges, issues*

### 1. INTRODUCTION

Mobile Computing is a technology that allows transmission of data, voice and video via a personal computer or any other wireless enabled device without having to be connected to a physical link. In mobile computing platform information between process units flows through wireless channels.. This technology allows the mobile users to form, access, process, store and communicates data while not being affected to one location. Mobile devices (e.g., Smartphone, Tablet PCs, etc) are densely used in today's scenario and still get even more important since the usage of mobile Internet. The growth of the number of applications available for those devices in the last few years has shown that there is a high demand for mobile apps. Mobile computing is that the discipline for making a data management platform, that is free from abstraction and temporal constraints. This temporal and special freedom provides a strong facility permitting users to succeed in information website and also the process site (the geographical location anywhere a process should be performed) from everywhere. Cloud computing has impact on mobile banking and mobile games etc. With the advent of smart phones and their support for large applications like video games, image processing and e-banking etc. Their complexity and demand of computational resources is increased.

### 2. MOBILE COMMUNICATION

The mobile communication is to the infrastructure put in place to ensure that seamless and reliable communication goes on. They would include protocols, services, bandwidth, and portals necessary to facilitate and support the stated services.

#### Mobile hardware:

Mobile hardware includes mobile devices or device components that receive or access the service of mobility. They would range from portable laptops, smartp hones, tablet Pc's,

Personal Digital Assistants. These devices are configured to operate in full- duplex, whereby they are capable of sending and receiving signals at the same time.



## Mobile software



Mobile software is the actual program that runs on the mobile hardware. The primary common systems enclose and operative locations used on mobile computers include MS-DOS, Windows 95/98/NT, UNIX, android etc. It's the essential component that operates the mobile device. Kind of integrated development setting portability is the main factor, this type of computing ensures that users are not tied or pinned to a single physical location, but are able to operate from anywhere.

### Challenges by mobile computing are:

1. Mobility
2. Wireless Medium
3. Portability

#### 1. Mobility:

Mobile connectivity is highly variable in performance and reliability. The ability to change location while connected to the network. Certain data considered static for stationary computing becomes dynamic for mobile computing. As people move, their mobile computers will use different network access points. Location management is also a big factor in mobility. To manage the location, following tasks are to be performed regularly over a fixed period of time.

- Track user's call.
- Update user's position and data.

#### 2. Wireless Medium:

The transmission medium in mobile computing is wireless. Wireless networks will continue to have limited bandwidth, high latency and frequent disconnection due to power limitations, available spectrum. Various interferences occurs in the mobile computing by the different elements in the environment. Network cost is feasible. Wireless medium is more difficult to

implement than wired communication because of the interaction of the surrounding environment with the message signal. Wireless networks deliver lower bandwidth than wired networks, hence mobile computing designs need to be very concerned about bandwidth consumption.

### **3. Portability:**

Devices connected within the **mobile computing** system should facilitate mobility. Conventional desktop computers are not meant to be carried, so designers take liberal approach to space, power, cabling. Keeping a copy that does not reside on the portable unit can safeguard against data loss. Security is very less, as security risks include the processing of fake transactions, unauthorized access of data and program files, and the physical theft or damage of the device. These devices may have limited device capabilities and limited power supply but should have a sufficient processing capability and physical **portability** to operate in a movable environment.

### **Recent issues in Mobile computing:**

#### **1. Insufficient Bandwidth:**

Mobile internet access is generally slower than direct cable connection using technologies such as GPRS and EDGE. High speed wireless LANs are inexperienced but have very limited range.

#### **2. Security Standards:**

Security is a major concern while concerning the mobile computing standard on the fleet. One can easily attack VPN(Virtual Private Network) through the line.

#### **3. Power Consumption:**

When a power outlet or portable generator is not available, mobile computers must rely entirely on battery power. Mobile computing should also look into Greener IT in such a way that it saves the power or increases the battery life.

#### **4. Transmission interferences:**

Weather, terrain and the range from the nearest signal point can all interfere with signal reception. Reception in tunnels, some buildings and rural areas is often poor.

#### **5. Potential Health hazards:**

People who use mobile devices while driving are often distracted from driving and are thus assumed more likely to be involved in traffic accidents. There are allegations that cell phone signals may cause health problems.

#### **6. Security issues:**

**Confidentiality:** preventing unauthorized users from gaining access to critical information of any particular user.

**Integrity:** Ensures unauthorized modification, destruction or creation of information can not take place.

**Availability:** Ensuring authorized users getting the access they require.

**Authorization:** It is give the permission to the individual to access the data.

**Non-repudiation:** The communication parties cannot deny that the information has been exchanged between them.

### 3. CONCLUSION

This paper presents a survey on Mobile computing and the issues and challenges in MC. Mobile computing is made possible by portable computer hardware, software, and communications systems that interact with a non-mobile organizational information system while away from the normal, fixed workplace. Mobile computing is a versatile and potentially strategic technology that improves information.

Mobile computing offers important advantages for organizations that prefer to integrate the technology into their fastened structure data system. mobile computing and data management policies to overcome these issues to make it successful and reliable technology . Wireless communication brings challenging new problems. Mobility makes information dynamic. Portability entails limited resources available on board to handle the variable mobile computing environment.

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## Mutual fund: An Ultra-Modern Vehicle of Investment

Meetu Chawla

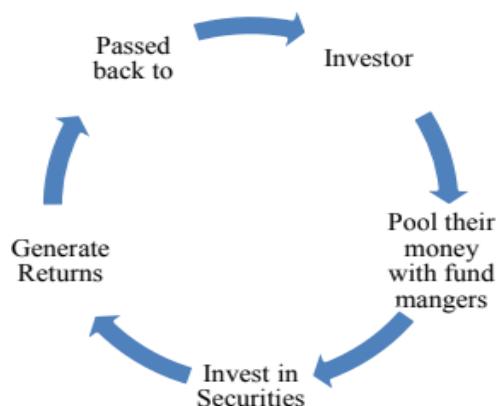
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### ABSTRACT

A mutual fund is a diversified portfolio management scheme where investors invest their money in a pooled way. It is managed by a mutual fund manager who invests the collected money from the investors into a number of bonds and securities depending upon the objective of the scheme. (**Shitole & Thyagarajan, 2012**) The investment made by the mutual fund managers may invest the money in shares, debentures, money market instruments etc. (**Ikram & Khan, 2011**). The income that is earned by these investments is shared among the unit holders depending upon the prorata basis and the number of units held by the investors. Hence it could be regarded that the Mutual Fund is the most reliable and safest investment in which the common man make investments. (**Bogle, 2010**) The investments made in the mutual fund is termed to be the low-risk investment as the investment gets distributed in an array of diversified bonds and securities which is professionally managed by the mutual fund portfolio manager. (**Reily & Brown , 2011**) It is the segment in which any nominal investor could invest starting with a minimum of a thousand rupees. It must also be noted that each mutual fund has a defined investment objective and strategy. (**NISM Series V-A**). The mutual funds issued by Unit Trust of India highly dominated the Indian mutual fund market by capturing about a total of Rs. 700 billion with more than 20 million investors (**Chakraborty, Jain & Kallianpur, 2008**). The UTI has issued funds or schemes in all the diversified categories like equity, balanced, income etc. along with some open-ended and closed-ended securities. Another scheme that is found to be the most popular in the Indian mutual fund's markets is Unit Scheme 1964 also popularly known as US 64. It is a balanced fund and is considered to be the largest scheme with the market share of about Rs200 billion (**ACMA, 2014**).

### 1. MECHANISM OF MUTUAL FUND

Mechanism of mutual fund indicates the working of mutual fund. The following figure represents the mechanism of mutual funds in India.



**Fig: 1.1. Mechanics of mutual funds in India** Source: ([www.amfiindia.com](http://www.amfiindia.com))

The initiation of the mutual fund mechanism starts with the Investors when they pool in their money to make investments to the fund manager. Then the fund manager issues funds to the

investors against the cash given by them. The investors get fund in proportionate amount and the predetermined unit of funds is not known. Each time the investor make investments new units are issued and the fund manager issues shares, debentures and other securities to the investors. The portfolio maintained by the investors depends upon the objectives laid by him to the fund manager. The fund manager makes investments as per the directions given by the investors. In most of the case the fund managers is supported by a group of research team, dealers, brokers, and custodians, etc. who guide and suggest to make investments. The fund manager takes the important decision of selecting the funds and making investments. The fund manager manages the balance among all the investments done on behalf of the investors and keeps a watch on the market activities and then divides the interest and debentures earned on the funds to the investors based on net asset value, (NAV). Finally the returns are given to the investors after calculating the losses and profits.

## 2. THE HISTORY OF MUTUAL FUNDS IN INDIA

The mutual fund industry was initiated in India in 1963 whose foundation was laid down by the Unit Trust of India in association with the Government of India and Reserve Bank of India (**Ravichandran & Jayraj, 2017**). The evolution of the mutual funds has been classified into four phases which are the First Phase: 1964-1987(Growth and origin of Unit Trust of India, Second Phase : 1987-93(Entry of Mutual Funds in Public Sector), Third Phase: 1993-2003 (Entry of Mutual Funds in Private Sector), and Fourth Phase (Since 2004 Onwards): Consolidation and Growth.

### ***First Phase - 1964-1987***

In the year 1963, the Unit Trust of India (UTI) was established by passing an Act by the Parliament. The Reserve Bank of India laid down the foundation for it and was found to be functioning under the Regulatory and administrative control of the Reserve Bank of India. The Regulatory and administrative control was taken under consideration by the Industrial Development Bank of India (IDBI) when the UTI got de-linked with RBI in the year 1978 (**Rahman, Qiang & Barua, 2012**). The first scheme was launched by the UTI in the year 1964 under the Unit Scheme. It was found that by the end of the year 1988, UTI was flourishing with about 6,700 crores of assets under its management by launching a number of schemes in for the investors in the 1970s and 80s.

### ***Second Phase - 1987-1993 (Entry of Public Sector Funds)***

The non-UTI mutual funds came into the market in the year 1987 along with the inclusion of public sector mutual funds set up by public sector banks, Life Insurance Corporation of India (LIC) and General Insurance Corporation of India (GIC). The first non-UTI Mutual Fund was SBI Mutual Fund which was launched in the year 1987. Mutual Funds like Canbank Mutual Fund (December 1987), Punjab National Bank Mutual Fund (August 89), Indian Bank Mutual Fund (November 89), Bank of India (June 90), Bank of Baroda Mutual Fund (October 92) came into the market to influence the investors (**Qadeer & Reddy, 2013**) to make more investments in this segment. Investors started developing trust and investing a large portion of their savings in mutual funds. By the end of 1993, the mutual fund industry assets had reached about Rs. 47,004 crores.

### ***Third Phase - 1993-2003 (Entry of Private Sector Funds)***

Many new parties like private sector entered in the mutual fund's sector during this phase. The SEBI Mutual Fund Regulations came into the formation during 1993 which was

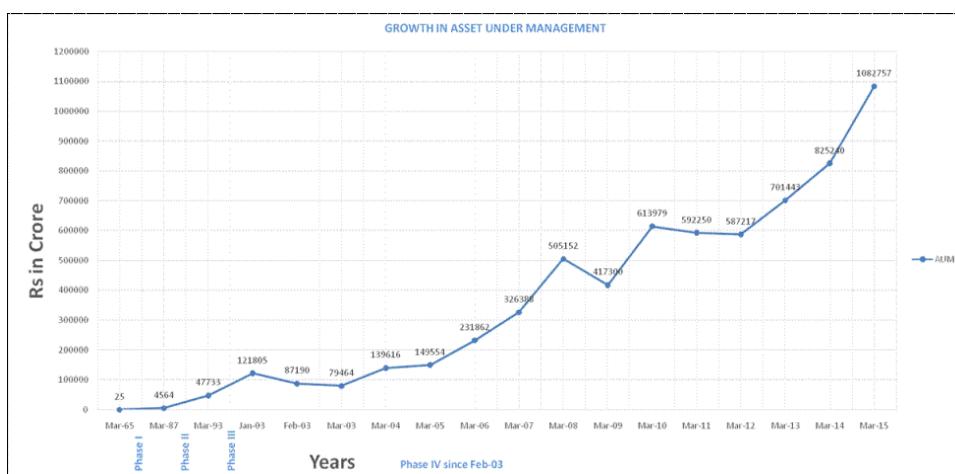
later on revised by Mutual Fund Regulations in 1996 (Singh, 2006). The Association of Mutual Funds in India (AMFI) was established in 1995 which promoted healthy and ethical marketing practices in the Indian mutual fund Industry. Many new foreign mutual funds came into Indian markets which led to the formation of several mergers and acquisitions. (**Mehru, 2004**) The investors got a wide range of mutual funds to select and invest. The end of January 2003 marked the emergence of 33 mutual funds with total assets of Rs. 1, 21,805 crores.

#### **Fourth Phase - since February 2003**

In February 2003, repeal of UTI took place and got branched into two separate units, one was not registered by SEBI and the other was registered by SEBI. Several mergers and acquisitions took place in which Allianz Mutual Fund acquired by Birla Sun Life, PNB Mutual Fund by Principal, among others (**Puri, 2010**). Many international institutes like Fidelity entered into the field of the mutual fund providing more investment avenues to the investors. The mutual fund industry carried its growth of assets under management during 2018-19 as well. The MF industry saw gross resources mobilization to 243.9 lakh crore during 2018-19 in comparison to 210.0 lakh crore during 2017-18. The AUM of mutual fund industry grew by 11.4 per cent to 23.8 lakh crore at the end of March 2019 from 21.4 lakh crore at the end of March 2018. The net resources mobilized by all mutual funds in India were 1.1 lakh crore during 2018-19. (SEBI report 2018-2019)

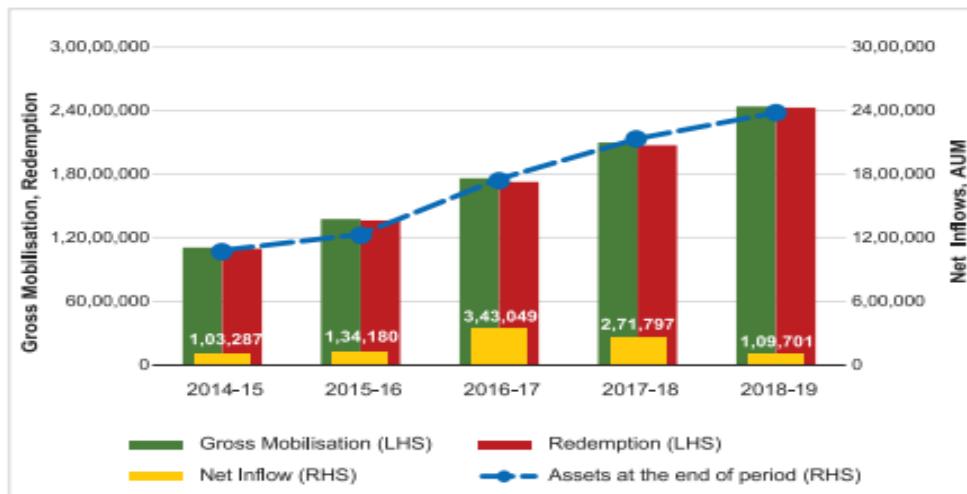
The following figures indicate the growth of assets under management of phase 1V since Feb 2003.

**Fig 1.2 Growth in assets under management**



Source: [www.amfiindia.com](http://www.amfiindia.com)

**Fig 1.3 Mobilization of resources by mutual funds (Rs. Crore)**

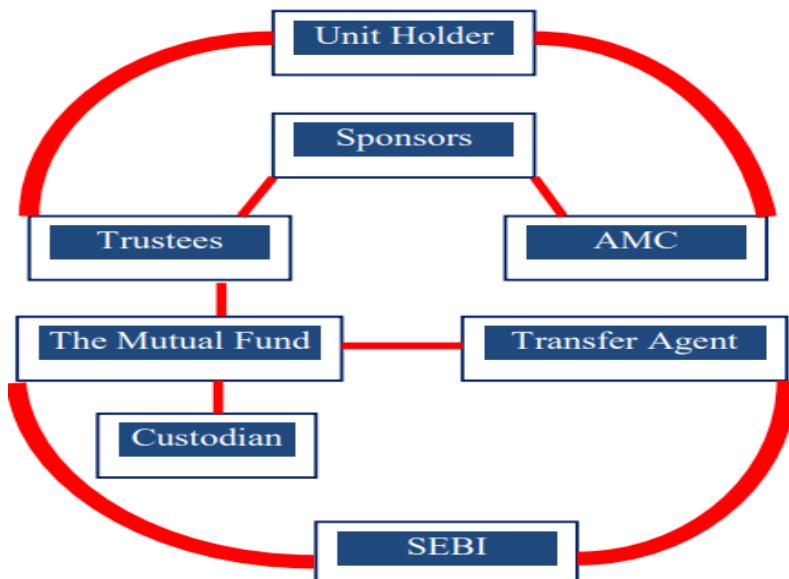


Source: Annual report of Securities Exchange Board of India pg 83 (SEBI 2018-2019)

### 3. STRUCTURE OF THE MUTUAL FUND

SEBI regulates and determines the structure of mutual fund in India. According to SEBI (mutual fund) regulations, 1996 mutual fund is created as a trust. Mutual fund consists of a 3 tier structure involving sponsor, trustees and AMC, these different entities comprising the structure of mutual funds in India. (**Singh & Jha, 2009**). The following figure illustrate the structure of mutual funds in India.

**Fig: 1.4 Structure of mutual funds in India**



Source: [www.amfiindia.com](http://www.amfiindia.com)

It is found that SEBI determines the structure of the mutual funds which establishes funds under the Indian Trust Act 1882 that is externally managed. A four-tier structure is followed in the operation of mutual funds which are sponsor, Board of Trustees, an asset management company and a custodian (**Suppa-Aim, 2010**).

**Sponsor:** It is identified as the promoter of the organization who generates the idea to establish AMC. **(NISM Series VA)** It is also defined as a body comprising an individual or a corporate body which establishes a mutual fund. Sponsors contribute capital towards mutual fund.

#### 4. CONCLUSION

Investment in a mutual fund has usually been a subject of debate for the buyers because of its difficult nature and taxes worried. An equity fund is an open- or closed-ended fund that invests mostly in stocks, permitting traders to buy into the fund and, as a result, purchase a basket of stocks extra effortlessly than they could purchase the temperament securities. There are hundreds of equity finances with each having precise traits. A few well-known equity finances encompass aggressive increase budget, small corporation finances, growth and earnings-price range, index funds, and many others. As in step with Indian profits Tax Act, Equity Oriented Fund (EO fund) refers to gadgets of Unit trust of India or a fund wherein investible finances invested by manner of fairness stocks in home groups exceed 65percent of the full proceeds of such fund and which has been installation underneath a scheme of a mutual fund exact underneath segment 10(23D) of the Act. The percentage of fairness shareholding of the fund is computed with regards to the annual average of the month-to-month averages of the whole and ultimate amounts (**Bhavsar & Damani, 2014**). The profits/losses arising on the transfer of devices of EO fund are labeled as a quick-time period/lengthy-term capital profits relying upon their period of conserving. Long-time period capital gain springing up on the transfer of units of EO fund is exempt from tax in which such gadgets are sold via a known inventory trade in India and such sale transaction is an issue to Securities Transaction Tax (STT). In cases in which the switch of gadgets of EO fund is not through a known stock exchange and STT has not been paid, the lengthy-time period capital gain is taxable at 20% on the amount of capital benefit, problem to availability of indexation advantages, i.e., the capital profits shall be the distinction between the sale consideration and the listed fee of acquisition (the value of buy is expanded by making use of the price-inflation index). But, one has a choice to pay tax on the lengthy-term capital gain at 10% (without taking the indexation advantage) on the switch of devices of EO fund. This feature of choosing among 20% on long-time period capital gains publish indexation and 10% of capital gains without indexation is available only in case of securities listed on any recognized stock change in India/units of mutual fund particular under phase 10(23D) of of Act of Unit Trust of India. The short-term capital advantage is taxed at regular quotes (i.e., the slab charges). But, in phrases of section 111A, quick-time period capital benefit arising on transfer of units of EO fund (now not held as inventory in trade) is taxed at a flat fee of 15% (**Bedia & Padmawat, 2013**). This is inter alia concern to the condition that such transaction is issue to STT. when the entire taxable earnings, excluding the short-term capital advantage taxable under section 111A and long-time period capital benefit, is much less than simple exemption restrict, the long-term capital gain or quick-time period capital advantage is to be decreased to the quantity of such shortfall at the same time as calculating the tax liability. Equity-oriented funds are not required to deduct any distribution tax on any dividend distributed to unitholders.

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## New Methods of Carbon Emission Reduction for India

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### ABSTRACT

The increase of carbon emissions has led to major issues like global warming, health hazards etc. This has brought an urgency to find methods to decrease our carbon emission levels and reduce it. This paper introduces three such methods which India could implement and drastically decrease their emission level while benefiting from it. Biomass carbon removal storage, carbon mineralization and carbon tax if implemented in India can make phenomenal changes and accelerate the reduction process.

**Keywords:** *carbon emission, climate change, carbon mineralization, carbon tax*

### 1. INTRODUCTION

The ever increasing temperature of the globe has put all of us in deep concern and one of the main reasons for this is excessive carbon emission. Throughout the years science and technology has played a significant role in technological advancement but this has also led to the increase of greenhouse gases. Climate scientists and researchers agreed that technological advancements have changed the earth's atmosphere in a dramatic way. Greenhouse gases is the major cause for these drastic changes with the negative impacts on environment and social life. Researchers have also predicted that the temperature of earth will increase by 6 degree Celsius by 2050. If not controlled now, it will severely affect our ecosystem and disturb its ecological balance. However, we need to understand this emergency and immediate actions must be taken to tackle this hot issue. New methods must be introduced to stop the unhealthy amount of carbon emission before it reaches out of control living life comes to an end.

The increase in precipitation, melting of glaciers and rising sea levels has the power to influence the Indian climate negatively, with the increasing incidences like floods, avalanches, cyclones, hurricanes, and storms, a lot of damage has already been done. Besides the visible effects on the climate and environment, these gases have harmful effects on human health and wildlife. The World Health Organization predicts that climate change is responsible for almost 200,000 deaths per year, and it is likely to increase in the coming years. Hot temperatures increase the ozone concentration, which has harmful effects on people. Not only is it a serious threat to the planet and to people but also climate change is threatening the global economy, food supply, water bodies, etc.

Agriculture is a climate dependent bio-industry and in a country like India, agriculture is an important sector of economy as it contributes about 17% to the total GDP. The rise in temperature reduces the quality and quantity of the crop resulting in reduced sugar content, bad colouration and reduced storage stability in them. In times like these it is likely to see a rise in the inflation curve. Warmer temperature enhances evaporation in soil which then leads

to droughts. Droughts will lead to making water more costly, which will then increase the cost of raw materials and production.

Predicting the consequences of global warming is a difficult task, but with every passing year India's suffering at the hands of droughts and climatic conditions are worsening. The decline trend in snowfall and melting glaciers of the Hind-Kush Himalayas are strong evidence of the devastating effects of carbon emissions.

The climatic change will impact the globe which in turn will threaten businesses in many ways. It will affect food security and promote the spread of deadly diseases. These factors will result in reduction of productivity as well as the amount of labour available to produce the output.

Experts suggest that all these changes will have a long term socio-economic impact on the lives of Indians. This has created a demand for new technologies that can help capture carbon dioxide and methane. However, we need to understand the emergency, take appropriate measures at the earliest.

## **2. NEW METHODS FOR CARBON REDUCTION FOR INDIA**

Worldwide, mainly in developed countries many methods for carbon reduction have been implemented and initiatives have been taken to diagnose the issue of excessive carbon emission, one of the prime factors for global warming.

India being a developing country as well as having one of the fastest growing economies in 2021, contributes to 7% of the world's carbon emission and is ranked 3rd after China and USA for carbon emission. Due to the recent increase of infrastructure in India the emission numbers are on the rise and there is no control over it. The government of India has taken many little efforts to fight the problem of carbon emission at a slow pace but that is not enough.

There are few methods below that India could implement which could reduce carbon emission drastically-

### **2.1 BIOMASS CARBON REMOVAL STORAGE**

As the name suggests, it involves capturing CO<sub>2</sub> directly from the atmosphere and storing them in geological carbon banks. Storage of CO<sub>2</sub> for large-scale carbon extraction from the atmosphere could play an important role in clean energy transitions. It is a range of processes that uses plants and algae to remove carbon dioxide from the atmosphere and store it underground or in long-lived products.

Accordingly, this will be defined as a process that -

- (a) Uses biomass to remove CO<sub>2</sub> from the atmosphere
- (b) Stores CO<sub>2</sub> underground or in long-lived products, and
- (c) Does no damage to the environment and ideally promotes food security, rural livelihoods, biodiversity conservation and other important values.

**Sustainable production of biomass comes from many sources:**

- a) Wastes and residues
- b) Dedicated carbon-removal crops
- c) Managed forests
- d) Microalgae
- e) Seaweed/macro-algae
- f) Agricultural waste

Once biomass arrives at conversion facilities, the carbon it contains is converted thermo-chemically, biochemically or through combustion. These facilities make products with commercial value which include fuels that were once made with coal, oil and gas, helping displace emissions. Other products include power, heat, construction materials and biochar.

As a final step, CO<sub>2</sub> at these facilities is either captured and pumped underground for permanent geologic storage or converted into long-lasting products in which the carbon is trapped for decades or centuries.

Wastes are no longer burned in open fires or allowed to decay to methane-rich gases. The energy products produced are either carbon neutral or carbon negative. Moreover, global trade in biomass and carbon dioxide removal (CDR) credits has allowed many developing nations of the world to benefit financially from contributing to the fight against climate change.

The most important part of our path to this point was when we agreed that CO<sub>2</sub> removal must begin with consideration of preventing harm to ecosystems, enabling good governance at the local and the global level, ensuring energy and economic returns, and understanding the stocks and flows of biological systems. With these worldwide understandings and constraints, biomass has become a powerful contributor to the mitigation of climate change and general increase of world welfare.

## **2.2 CARBON MINERALIZATION**

Carbon mineralization is the process of carbon dioxide changing from its original form which is gas into solid carbonate mineral. This method involves capturing and storing carbon underground which after certain chemical reactions, takes the form of a solid matter which is rich in calcium and magnesium. Just like living beings constantly inhale and exhale air, our earth as well constantly ingests and exhales carbon. It is we humans who have accelerated the production of carbon due to the ever increasing demand which has led to disruption of the earth's natural carbon cycle and this is what we call a climatic crisis. Scientists have said that mineralizing carbon is one of the most effective, long-term and non-toxic way of scrubbing CO<sub>2</sub> from the earth's atmosphere. Likely the best use for this method would be close to industrial sites with carbon dioxide emissions, where the carbon could be captured before it goes into the atmosphere and immediately mineralized onsite.

This process of underground storage increases the reduction of carbon and in turn reacts with the rocks which leads to formation of magnesium or carbon ions.

One of the biggest advantages of this process is that the carbon cannot escape back into the atmosphere, it is now trapped in a rock solid form. There are innumerable ways in which this solid source can be used, for example in factories, building infrastructure etc.

Since the process is expensive, India can switch to other cost effective alternatives such as storing the captured carbon in sedimentary basins which prevents the carbon from entering

the earth's atmosphere'. Considering the sedimentary basins as our storage bank, injecting the carbon underground for mineralization could be another method that India can implement.

### **2.3 CARBON TAX**

A carbon tax is a fee imposed on the burning of carbon-based fuels like coal, oil, gas, petrol and also on their overall carbon emission rate from other sources.

It is a method to make users of carbon fuels pay for the climate damage caused by releasing carbon dioxide into the atmosphere. If it is high priced, it becomes a powerful financial way that motivates switches to clean energy across the economy, simply by making it more feasible to move to non-carbon fuels and energy efficiency. The collected tax can be used by the government to set up green based infrastructures and use that money to make a carbon free environment.

Currently in India a carbon tax is applied on coal, but this not enough. All materials that emit carbon right from big factories and industries to a common man using a motor vehicle should come under the umbrella of carbon tax. When people realize the amount of carbon they emit, it is then that they will take initiatives to reduce their emission and this will help in eradicating the problem on the grass root level.

A committee or an organization can be set up to calculate an individual's or a factory's or a business's estimate emission and apply tax on it.

For users who don't emit carbon should be rewarded by overall tax deduction as this will seem like a beneficial deal for the users and make masses convert into sustainable lifestyle.

### **3. CONCLUSION**

Global warming is one of the major causes of our problems today and one of the prime factors of it is carbon emission. The main contributor of it is factories, especially energy producing factories. Carbon emission affects our lives in all ways like social, environmental, economical etc. making this a concerning issue to deal with. India faces a lot of problems due to these emissions and it results in damaging the economy and the wellbeing of people.

Biomass carbon removal and storage is one such method that India can use as it is a cost effective method and is completely green. If this method used in urban areas like Mumbai, Delhi, Bangalore could be most beneficent and can promote a healthy environment for the city people.

Another method that India can use which is a bit costly but proves to be extremely efficient in the long run is carbon mineralization. This method involves completely capturing carbon dioxide from the atmosphere and converting it into materials that are beneficial to us. India can use this method by placing such plants near high carbon emitting factories and the disrupted carbon cycle can be rectified again and prove to be useful to us by giving us valuable carbon minerals.

For creating a loud awareness of the critical problem that we Indians are facing today is by the government applying a carbon tax on every individual of India. By applying this tax not only awareness will be created but also citizens would try to evade this by using greener means of living which would decrease their carbon emission.

All these methods can drastically solve the problem but it wouldn't make much of a difference if the people are not educated on matters of carbon emission.

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# **Perspective of Retailing in Kanyakumari District – A Post COVID 19 Analysis**

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## **ABSTRACT**

Retail organization refers to the basic format or structure of a retail business designed to cater to the end customer. Retailing has been a dynamic industry where new retail firms have brought innovative approaches to retailing, changing the industry as they enter, develop and grow. These organizations can be classified on the basis of ownership, operational structure, length and depth of merchandise offered and so on. The location of a retail store not only conveys the image of the store, but also influences the merchandise mix and the interior layout of the store. The attribute of location have a strong impact on the retailer's overall strategy influencing the flow of pedestrian and vehicular traffic which determines the footfalls in a retail store. Location and store characteristics should interact in a positive and synergistic way with the store's merchandising, operation and customer service characteristics. Another significant related concept is atmospherics and space management. Atmospherics refer to the stores' physical characteristics which influences the perception of customers towards shopping hours spent and the evaluation of merchandise. Effective space management attempts to ensure optimum utilization of retail space along with convenience of customers and employees. This study deals with profile, type of retail business, years of experience, investment location, layout of the stores.

**Keywords:** *Retail, location, layout, merchandise, space management*

## **1. INTRODUCTION**

The retail sector has experienced a growth upswing in the last few years marked by growing awareness among consumers, rise in disposable incomes, changing behavior and increasing amalgamation of online and offline retail formats. As shoppers become more demanding, retailers have had to innovate by transforming commodities, marketing techniques, presence and appeal in order to remain appropriate for their customers.

With COVID-19 changing the consumer sentiment and lifestyle, it has also quicken the adaptation of technology in this industry. Today being online and having a strong backend is no longer going to be optional for any retailer. Every retailer is forced to adapt digital ways at a much faster pace and has to invest in technology to improve quality of service and it is expected to have swift in digitalization to open new opportunities and drive change in this retail sector.

COVID 19 has made buying virtually more real than it has ever been and retailers have started looking at innovative ways of improving sales, such as providing virtual trial rooms and video-based sales calling. With this the integration between offline and online retail is likely to grow further. Businesses are exploring integration strategies to enrich the customer

value proposition and/or reduce costs. The focus is now on creating a unified shopping experience for customers across different marketing / sales channels.

As per a recent global survey by CBRE, 48% of the retailers expected demand to improve in 2021 with consumers to drive sales upwards and India will see a similar trend as the retailer activity is picking up.

With rapidly evolving consumer preferences and attitudes, retailers and businesses must embrace the change and prepare for transformation in order to provide a seamless shopping experience to consumers. With the emerging technology, and rise of omni-channel retailing, retailers need to revamp and recalibrate their business strategies to create new experiences and gain consumer trust in a post-Covid world

The retail stores are here to stay, and apart from being just a point of sale for the brands, they will also serve as a platform to attract, engage and retain consumers. Retailers are looking at creating unique experiences for their customers and are looking for high quality spaces.

## 2. RESEARCH METHODOLOGY

Research design is the blueprint for empirical research work that guides the researchers in a scientific way towards the achievement of the objectives. This research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief. The research instrument used for this study is a self-administrated questionnaire that was circulated among respondents in the form of a survey, and the data collected in this way were the primary data for the analysis.

Since the people who are engaged in retailing in India are numerous in number, it was found quite unwieldy to select certain percentage of the population as the sample frame. So for our research purpose 100 samples were selected from different parts of Kanyakumari District on the basis of simple random sampling.

## 3. DESCRIPTIVE ANALYSIS

A descriptive analysis is an important first step for conducting statistical analysis. It gives you an idea of the distribution of your data, helps you detect outliers and typos, and enable you identify associations among variables, thus making you ready to conduct further statistical analysis

### Form of ownership

The table 1 describes the distribution of retail stores based on the form of ownership.

**Table 1: Distribution of stores - Form of ownership**

Form of Ownership	No Of Respondents
Sole Proprietorship	83
Partnership	15
Company	2
Total	100

It is clear from table 1 that 83% of stores are in the form of sole proprietorship, 15% are in the form of partnership and only 2% are in the form of company. It is concluded that majority (83%) are in the form of sole proprietorship.

### Type of business

Table 2 describes the classification of retail stores based on the type of retail business.

**Table 2 : Distribution of stores - Type of business**

Type of Business	No Of Respondents
Convenience store	86
Departmental Store	12
Supermarket	2
Total	100

It is evident from the table 2, that among various types of retail business 86% account for convenience store, 12% account for departmental store and only 2% account for supermarket. To conclude, convenience store constitutes majority (86%) of retail business.

### **Years of experience**

Table 3 specify the distribution of stores based on the years of experience in retail business

**Table 3 : Distribution of stores - Years of experience**

Years of Experience	No Of Respondents
Below 1 year	36
1 yrs -2 yrs	29
2 yrs -5 yrs	15
5 yrs -10 yrs	7
10 years and Above	13
Total	100

Table 3 depicts that 36% of retail owners have below 1 year of experience in business, 29% have 1 yrs -2 yrs of experience, 15% have 2 yrs- 5 yrs of experience, 13% have more than 10 yrs of experience, and only 7% have 5 yrs-10 yrs of experience. It is concluded that 36% of retail owners have below 1 yrs of experience in business.

### **Initial investment**

Table 4 describes the distribution of stores based on the initial investment of retail stores.

**Table 4 : Distribution of stores - Initial investment**

Initial Investment	No Of Respondents
Below Rs. 1 lakh	50
Rs. 1 lakh - Rs. 3 lakh	39
Rs. 3 lakh and Above	11
Total	100

Table 4 describes that 50% of retail owners invest below Rs. 1 lakh, 39% invest between Rs. 1 lakh and Rs. 3 lakhs and only 11% invest between Rs. 3 lakhs and above. To conclude, majority (50%) of the retail owners invest below one lakh.

### **Source of investment**

**Table 5 : Distribution of stores - Source of investment**

Source of Investment	No Of Respondents
Own Fund	34
Borrowed Fund	19
Both	47
Total	100

Table 5 reveals that 47% of retail stores use both own and borrowed funds, 34% utilize own fund and 19% utilize borrowed fund as a source of investment for retail business. To conclude, 47% utilize both own and borrowed fund for retail business.

### Chi-square Analysis

A chi-square test for independence compares two variables in a contingency table to see if they are related. In a more general sense, it tests to see whether distributions of categorical variables differ from each another.

**Hypothesis:** The organisational factors have no significant influence on the location of the store

**Table 6 : Chi-square values-Organisational factors and location of store at various levels**

Organizational Factors	Chi – Square Values			
	Low	Medium	Big	Overall
Form of ownership	3.800	3.870	8.667	15.968*
Type of retail business	14.042	1.782	7.944	27.355*
Years of experience	15.088	25.081	6.741	30.536*
Initial investment	15.176*	12.743	4.540	24.876*
Source of investment	18.817*	21.696*	7.800	27.605*

\* Significant at 5 per cent level

It is clear from table 6 that in the low level category, initial investment, source of investment and have significant influence on the number of customers visiting the store per day. In the medium level category source of investment have significant influence on the number of customers visiting the store per day. In big level category, all the organizational factors have insignificant influence in the number of customers visiting the stores per day. The overall position indicates that all the Organizational factors have significant influence on the number of customers visiting the stores per day. It is concluded that source of investment have significant influence on the number of customers visiting the store per day at various levels.

**Hypothesis:** The organisational factors have no significant influence on the location of the store

**Table 7 : Chi-square values-Organisational factors and location of store at various levels**

Organizational Factors	Chi – Square Values			
	Low	Medium	Big	Overall
Form of ownership	0.921	3.815	1.093	3.443
Type of retail business	2.294	6.629	2.117	1.812
Years of experience	7.667	17.917	7.879	12.655
Initial investment	13.057*	11.870	2.026	18.499*

Source of investment	0.690	26.381*	1.093	9.355
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\* Significant at 5 per cent level

It is evident from table 7 that in low level category initial investment is significant in influencing the location of the store whereas in medium level category source of investment and years of experience have significant influence on the location of the store. In big level category, all the organisational factors have insignificant influence on the location of the store. The overall position indicates that the initial investment, Source of investment have significant influence on the location of the store. It is concluded that initial investment and Source of Investment have significant influence on the location of the stores at various levels.

**Hypothesis:** The organisational factors have no significant influence on the number of customers visiting the store per day.

**Table 8 : Chi-square values-Organisational factors and number of customers visiting the store per day**

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#### 4. CONCLUSION

Retailers are the closest to the point of purchase and have access to a wealth of information on consumer shopping behaviour. Retailers have some unique advantages for managing brands such as continuous and actionable dialogue with consumers, control over brand presentation at point of sale, control over shopping environment, display, location, signage etc and they have used this advantage to earn great success. Understanding their evolving needs, aspirations and life styles is the underlying key to success for any retailer. The primary emphasis should be on access, experience, service, the secondary emphasis should be on product and price. Hence, retailers should concentrate on researching customer preference, developing value proposition, establishing retail networks and supply chain.

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## **Plight Female Domestic Helpers – during and post lockdown in Mumbai City**

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### **ABSTRACT**

Housing societies began with restrictions like scanning for fever with temperature guns in March. As the lockdown became tighter and panic turned to fear, societies banned cooks, maids, and plumbers as possible carriers of the virus. Some of them did not allow them to use the lifts and asked them to climb floors and gradually, ousted them. This put them in a state of financial shock. Many of their families depended on their incomes. Some were paid, while some were not. This is empirically proved by collecting information from 55 respondents who are offered domestic help in various houses in the suburbs of chembur, Mumbai and found it difficult to run their house. An empirical analysis of how difficult it is for female domestic workers to get back to normal life, even if normalcy has resumed in Mumbai City, owing to their financial and living conditions has been carried out by surveying 55 female domestic workers who were laid off from work due to the outbreak of the pandemic in Chembur, a suburb in Mumbai.

**Key words:** domestic helpers, pandemic, cooks/ maids, quality of life

### **1. INTRODUCTION**

Mumbai, the busy city, where most of the people in various cities were very much dependent on their maids (female domestic helpers) for various household chores right from cleaning, housekeeping, taking care of children, cooking, taking care of elderly and sick people to being there to attend visitors or be at home with them to help them along ...had to lay off these helpers for the fear of spread of the Covid-19, consequences of which proved to be fatal.

### **2. REVIEW OF LITERATURE**

According to Charmes (2000), there is an overlap between working in the informal economy and being poor: a higher percentage of people working in the unorganized sector, relative to the organized sector, are poor. There is a correlation between working in the unorganized sector and poverty: a higher percentage of people working in the unorganized sector are poor compared to those who are employed in organized sector. Further, this overlap is gendered. The more women are in unorganized sector who are poor compared to that of men. However, it is important to recognize the fact that there is no simple relationship between working in the unorganized sector and poverty or working in the organized sector and prosperity. Unorganized workers typically lack the social protection benefits which are available to the organized sector, such as worker benefits and health insurance. They also work under irregular and casual contracts. When the data has closely analysed, the precise relationship between unorganized sector employment and the level of poverty appears when unorganized

sector employment is segregated by status of employment like employer, self-employed, or worker, and the gender.

Upadhyay V. (2007) conducted a study on Employment and Earnings In Urban Informal Sector in Arunachal Pradesh focusing on investigating the quality of employment in the informal sector in terms of earnings, job-security, working hours, and the general socio-economic conditions of the informal sector workers. The study also examined the linkages, if any, between formal education and earnings in different segments of the informal sector. Major findings of the study revealed that the exploitation of wage workers in the informal sector was higher than that of the formal sector. It is also important to note that the linkages of the informal sector units with government and other public systems by way of regulation, input and utility supplies were found to be more or less non-existent. Study also found that very insignificant proportion have access to electricity and Institutional credit and no one was provided access to allotted site and capital assistance for government. Majority of the workers in the job markets in urban areas were migrants. The share of the male migrant workers was as high as 92 per cent, while that of women workers was only 26.2 per cent. But it was found that the share of female workers was much more among the non-migrant workers. Only 25 per cent of the total samples surveyed were self-employed, while the rest were hired workers. As far as the payments of wages were concerned, only 68 per cent of the hired workers received their wages in cash, while the rest 32 per cent received it partly in cash and partly in kind.

### **3. RESEARCH METHODOLOGY**

#### **Data Source**

Primary data: An interview schedule was administered to 55residents of K.N. Gaikwad Marg, (popularly known as “Siddarth colony”) who were offering domestic help at various houses in Chembur . Purposive sampling technique was adopted. Data was collection was done in two parts. One part on their personal details, socio economic details and quality of living was collected in July 2019 and the second part was December 2019 during the lock down imposed to investigate the effect of the lock down on their socio economic status. The researcher also used observation method to assess their living environment.

Secondary: M.Phil/ PhD Thesis, Journals and other periodicals. The data so collected was statistically analysed using statistical packages. Statistical tools fit were descriptive – frequency analysis and quality of living index was used to understand their quality of living.

#### **Objectives of the study**

1. The Current study examines the quality of living of the female domestic helpers with reference to their earnings, savings, assets owned by them, number of dependents, their debts, the amount they pay, how frequently they paid off the same before and after the pandemic and thereby, their ability and capacity to bounce back to the normalcy.

## 4. RESULTS AND DISCUSSION

### I. Demographic and Social Profile

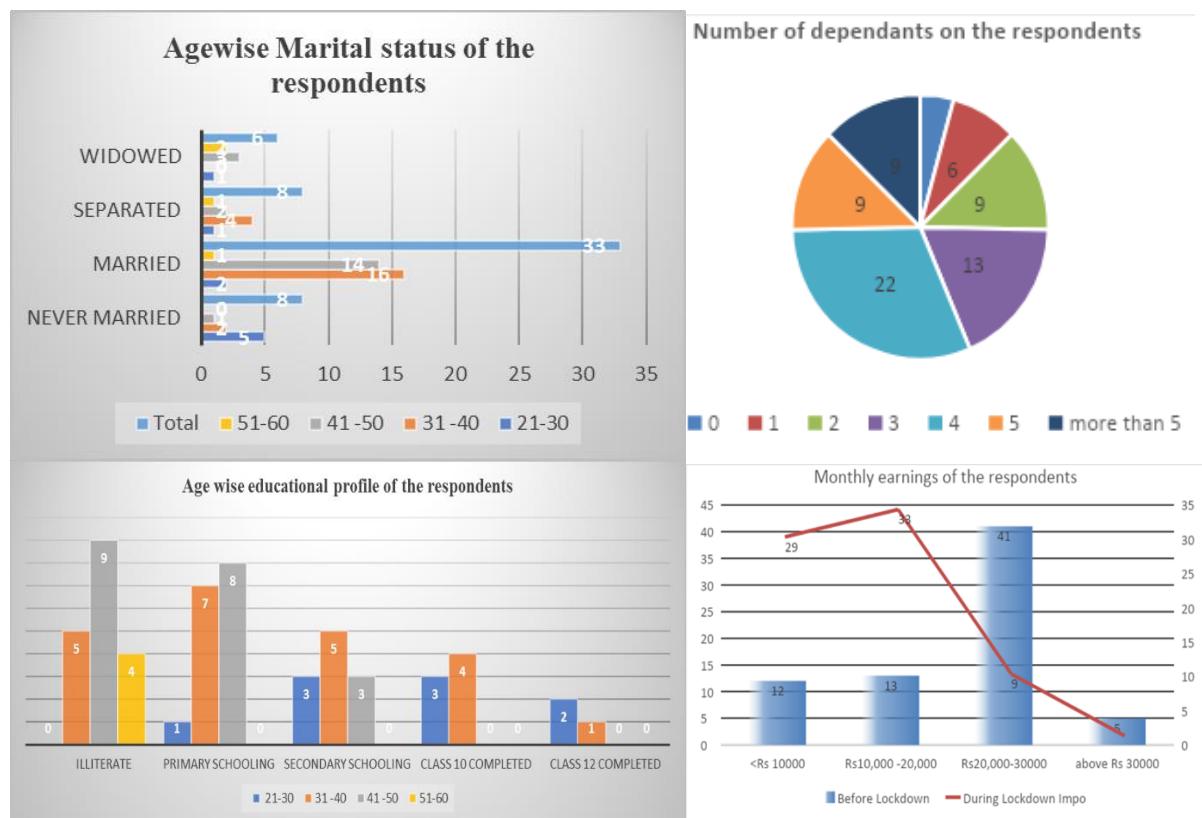
**Table 1 Age wise Distribution of the respondents**

AGE	Number of respondents
21-30	9(16.36)
31 -40	22(40)
41 -50	20(36.36)
51-60	4(7.27)
Total	55(100)

*Source: Estimation based on field survey*

*Figures in Bracket indicate per centage*

Table 1 above shows the age wise gender distribution of the respondents. Out of the 55 respondents surveyed, over seventy six per cent of them were middle aged women in the age group of 31 – 50. While about 4 of them were older ones in the age group of 51-60.



*Source: Estimation based on field survey*

Figure 1 shows the age wise marital status of the respondents. Majority of the respondents are married.

Figure 2, above, shows the literacy level of the respondents. Majority of the respondents, especially the middle -aged ones have basic level of schooling at least primary level. About one third of the respondents were illiterates (eighteen out of the fifty five)

## II. Scio Economic Profile of the respondents

Figure 3 above shows the number of dependents the respondents are currently supporting. Thirty one percent of the respondents had four dependents while 13 percent of the respondents had even five people depending on their income. Very few respondents (four per cent and eight percent respectively) no dependents or one dependant for support.

### Economic Profile of the respondents

Figure 4 above, shows the monthly earnings of the respondents before lock down and the effect of the lockdown imposed by the government due to the outbreak of the pandemic (Covid-19). This shows a steep decline in the income of the respondents who were dependant of their earnings from domestic help.

**Table 2 Assets owned by them in Mumbai**

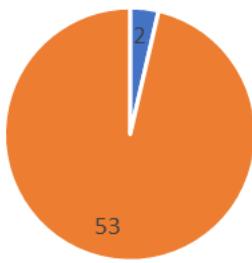
Assets	Number of respondents
Two wheeler	12 (21.82)
Television	48 (87.27)
Refrigerator	32 (58.18)
Washing Machine	12 (21.82)
Furniture	55(100)
Gold (upto 100 grams)	13 (23.64)
Silver upto 250 grams	55 (100)

*Source: Estimation based on field survey*

*Figures in Bracket indicate per centage*

Table 2, above shows the assets owned by the respondents during the period of Survey. All the respondents owned some amount of jewellery, at least silver. Many of them (over 87 per cent) possessed television sets also. All of them owned basic furniture. like chairs, tables, a cot to sleep on in their houses

### Figure 5 Type of House Living in



Response	No of Respondents
Yes	2 (3.64)
No	53(96.36)
Total	55 (100)

■ Owned ■ Rented

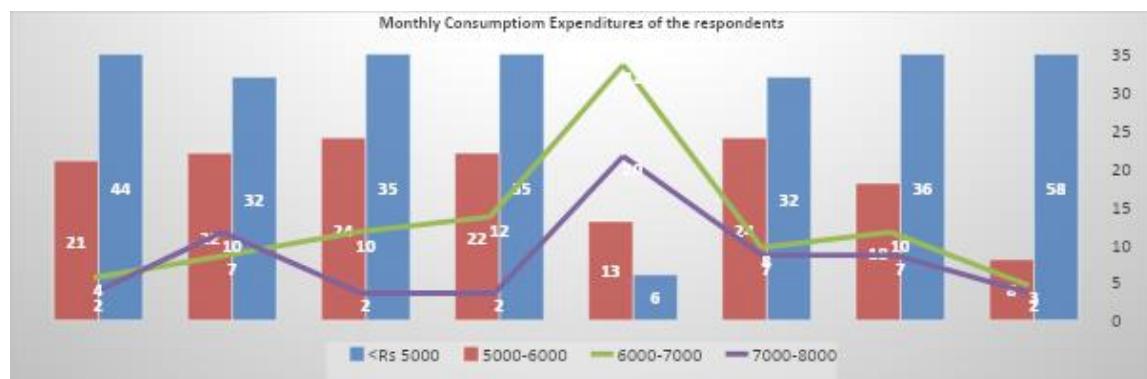
*Source: Estimation based on field survey - Table 3 24\*7 Water Facilities at place of residence*

Figure 5 shows the if the respondents are living in owned or rented homes. Majority, over ninety six per cent of the respondents live in rented houses

The Table 3 above shows the access to water facilities for the respondents. Over ninety eight per cent of the respondents do not have access to 24\*7 water. Leave aside drinking water, they have access to water facility only for about 2-3 hours during the day. They fill water during that time for the entire household. There are a minimum 450 houses in each of the locality surveyed. In case they miss filling water, they have to manage without water the rest of the day. This shows their pathetic living condition. Only 16 out of the 55respondents fill water from a private taps. Rest of them fill water from shared taps.

### **Monthly Consumption Expenditure**

#### **Figure 6 Monthly Consumption Expenditure of the respondents**



Source: Estimation based on field survey

The above figure shows the monthly consumption expenditure of the respondents before and during lockdown. It can be seen that food income shows a rise during lock down and so does alcohol as people tend to consume more alcohol when they lose their jobs, lose their livelihoods. While in the case of non- food expenditures, they have come down, though not significantly. But there is a steep fall in the miscellaneous (entertainment) expenses during lockdown as compared to before lock down.

**Table 4 Monthly savings of the respondents**

	Monthly savings of the respondents	
	Before Lock Down	During Lockdown
Rs 0-2000	22(40)	47 (85)
Rs 2000-4000	21(38)	8 (14)
Rs4000-6000	12(22)	0 (0)
Total	55 (100)	55 (100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

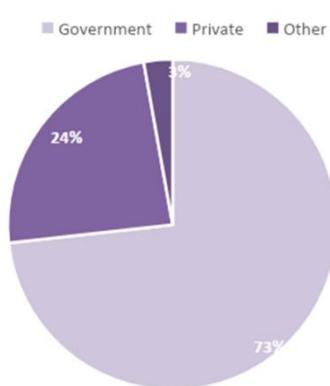
Monthly savings amount can be seen in the above table (no ). Monthly savings amount has dropped many respondents saved even up to Rs 600 a month before the lock down. Now, this has dropped drastically. Either they don't save at all or save a lot lesser than what they were saving. This is consequent to the fall in their income and rise in expenditures also.

**Table 5 Health condition prior to lockdown imposed**

S.no	Common sicknesses	No of Respondents
1.	Fever	48 (87)
2.	Diarrhoea	29 (53)
3.	Stomach Pain	19 (35)
6.	Leg and Hand Pain	48 (87)
7.	Acidity	48 (87)
8.	Thyroid	20 (36)
9	Asthma	42 (76)
10	Eye sight	22 (40)
11	Joint pain	48 (87)
12	Urinary infection	36 (65)
13	Skin Allergy	40 (73)
14	Kidney Stone	34 (62)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

The above table shows some of the common illnesses faced by the respondents. Majority of them face (48 and 48) illnesses like leg and hand aches and even Acidity issues, when asked about diabetes and blood pressure, all of them unanimously said that they haven't got it tested.

**Hospitals visited for treatment when they fall ill**

The above figure (number 7) shows the preferred hospitals, the respondents visited prior to the pandemic situation. Majority of them said that they preferred government hospitals as treatment was less expensive and they cannot afford to pay the bills of private hospitals. Many of them also said that in a week, at least once they have to visit the hospitals as their family members also frequently fall ill. They are all residents of chawls where, they have to share a common toilet and the area of their residence has a very poor sanitation facility.

### **Indebtedness of the respondents**

The below given table no 6 shows the indebtedness of the respondents

Amount Borrowed	No of Respondents
below 5,000	6 (10.91)
5000 - 10,000	29 (52.73)
above 10,000	6 (10.91)
Total	41(74.55)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

About 75 percent of the respondents had borrowed money for various reasons listed below in the forth coming table and with the little earnings or bare minimum earnings they earn set aside a sum to repay...

**Table No 7 Amount Repaid**

Amount	Number of respondents
Below Rs 1000	12 (29.27)
Rs 1000 - Rs 5000	6 (14.63)
Rs 5000- Rs 10,000	15 (36.59)
Above Rs 10,000	8 (19.51)
Total	41 (100)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

From Table 7, it can be seen that many (a little over 36 per cent) of them had a repayment commitment of Rs 5000 and above which they felt became a big burden due to the loss of their jobs. A few, about twenty percent of them even had a loan repayment of Rs 10,000 and above, which became almost impossible for them to repay...

**Table 8 Source of Borrowings**

Lenders	No of Respondents
Local money lenders	13(31.71)
Friends	3(7.32)
Family members	9(21.95)
Others	2(4.88)
Employers	14(34.15)
Total	41(100)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

Table 8 above shows the source of borrowings of the respondents. About 32 percent of them have borrowed from local money lender while, almost an equal amount have borrowed from their employers. They also said that local money lenders charged them 10-12 % rate of interest. Which, though was very high, they were managing to pay...

**Table 9 Reason for borrowing**

Purpose for borrowing	No of respondents
Purchase of land	2(4.88)
Purchase of household articles	9(21.95)
Medical Expenses	4(9.76)
Children's educational expenditure	17 (41.46)
Repairing the house	6 (14.63)
Others like celebrations etc	1(2.44)
Emergencies	2(4.88)
Total	41(100)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

From the above table, table number 9, its can be seen that the respondents have borrowed for providing for their essentials. Most of them, twenty nine per cent of them have borrowed for meeting the educational expenditures of their children. They also said that they wanted their children to be educated so that their quality of living is better and they take up some "dignified" and better paying jobs in the society. Hence many of them did not being indebted through their life time. Some of them said that is their only goal...

**Table no 10 Frequency of debt repayment**

Frequency of Repayment	No of respondents
Weekly	3(7.32)
Monthly	19 (46.34)
Quarterly	3 (7.32)
Half yearly	12 (29.27)
Yearly	2(4.88)
As and when they have money	2 (4.88)
Total	41(100)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

Table 10 above shows the frequency of repayment. Prior to the layoff from jobs. Most of them, over 46 percent repaid their debts monthly and a significant amount(over 29 percent) of them repaid half yearly also.

**Table11 Problems faced by the respondents in their place of residence...**

Factors	Number of Respondents
Lack of space	49 (89)
Uncertainty and Insecurity for them and their children	36 (65.45)
Safety issues	22 (40)
Unhygienic neighbourhood	48(87.27)
Threat from gangsters/ hooligans etc	22 (40)
high cost of living	12(21.82)
Fear of misbehaviours by passers-by etc	26(47.27)
leaking roofs/ broken or breakable walls etc	13(23.64)
Pollution –Air	55(100)
Noise Pollution	52(94.55)
Contaminated Water	32(58.18)

*Source: Estimation based on field survey Figures in Bracket indicate per centage*

Table 11 shows the problems faced by the respondents in their areas of residence. To add on to the air, noise and water pollutions faced by them and their family members and children, majority (87 per cent) of them also felt that their neighbourhood was very unhygienic and a little was done about this... this led to lot of health issues. Many of them also felt insecure in the areas where they lived. Some of them badly want to shift, but due to financial constraints are unable to do so.

#### **QUALITY OF LIFE INDEX (QLI):**

To study the levels of living and economic condition among the domestic helpers in Chembur, Mumbai quality of index was constructed. In development economics, the quality of life is usually discussed in terms of consumption expenditure, minimum calorie intake norms and income. Hence in present study the Quality of Life Index were constructed by using the following indicators namely education, occupation, annual income, annual per capita income, calorie intake (breakfast, lunch and dinner), food expenditure, non food expenditure, type of housing,, source of drinking water, drainage facility and toilet facility

**Table No 12 Distribution of the Households on the basis of Composite Index**

Composite Index	Never Married Women	Married Women—bread winners	Married Women—supporting earners	Separated	Widowed	All
Less than 30	24 (5.6)	26 (6.1)	17 (4.3)	5 (1.1)	20 (4.3)	95 (21.3)
30 – 40	36 (8.3)	43 (9.7)	35 (7.9)	42 (9.4)	35 (7.9)	192 (43.1)
40 – 50	30 (6.5)	22 (4.7)	39 (8.8)	32 (7.2)	18 (4.0)	139 (31.2)
50 and above	3 (0.7)	1 (0.2)	1(0.2)	11 (2.5)	3 (0.7)	19 (4.3)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Majority (43 per cent) of the women venders were in the index range of 30 – 40, followed by 31 per cent and 21 per cent in the range of 40 – 50 and less than 30 and remaining 4 per cent in the range of 50 and above. In comparing the nature of products sold among the range 30 to 40, 10 percent belong to Married women who are the sole bread earners followed by separated women supporting their families of 9.4 per cent, followed by married women who have someone else earning in their family.

**Table 13 Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.026	12	.000
Likelihood Ratio	42.252	12	.000
N of Valid Cases	443		

Source: Estimation based on field survey

The above table (table no 13) suggest that there is association between their marital status and their quality of life index.

### Regression

Dependent variable : income of the respondents

Explanatory variables : Age, marital status, number of dependents in the family, Assets possessed, type of house living in

**Table 14 Regression analysis**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.552	.332		11.000	.000
Age	.332	.019	.497	11.999	.000
Marital status	.142	.032	.221	5.600	.000
No of dependents	-.662	.095	-.239	-5.932	.000
Type of House Living in	-.114	.030	-.161	-3.629	.000
Assets possessed	-.241	.056	-.104	-2.613	.011

Table 14 shows regression analysis. These estimates reveals the relationship between the independent variables and the dependent variable. These estimates that an increase in age ( .33 unit) has a positive increase in the amount of increase in income

**Table 15 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.792 <sup>a</sup>	.622	.633	.068

*Source: Estimation based on field survey*

e. Predictors: (Constant), Age, nature of product sold, working days, Religion, savings  
 Table 15 depicts the model summary reports the strength of the relationship between the model and the dependent variable. The regression accounts for 61 percent of the variance in the dependent variable

**Table 16 ANOVA regression model fit**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	106.139	5	21.428	45.172	.000 <sup>b</sup>
Residual	207.239	439	.474		
Total	313.378	444			

*Source: Estimation based on field survey*

a. Dependent Variable: Respondents of the income  
 f. Predictors: (Constant), Age, nature of product sold, number of dependents, Religion, savings  
 Table 16 shows the Anova of the regression model fit

## 5. CONCLUSION

Mumbai, which once was a land of opportunities, has shut its doors of jobs to millions of such poor people who were making both their ends meet by offering domestic help to various people. During Lockdown, when the employers stopped letting domestic helpers from entering their, houses, these people were almost in streets with children and other dependants to support. Many of them had to live on their savings. And when, things reopened, they have to start from the scratch as all their savings were consumed and in fact, their unpaid debts have overburdened them by and some have got added their debts added also. How easy or difficult will be for them to restart as the other would be starting from square 1, while these people from -1.

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## Professional Game Development Pipeline for Students

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### ABSTRACT

In any professional game development team, there are some guidelines that each member of their team must follow. These guidelines form a pipeline which describes the development process of a game. The main purpose of this paper is to provide certain direction for beginners to understand the flow of game development from concept visualization of game to release of the game. This paper also includes information about software programs that professional game artists as well as developers use to create 3d games.

**Keywords:** *Visualization, Concept, Design, Document, Game Development Life Cycle (GDLC), production, studio.*

### 1. INTRODUCTION

This Paper is Aimed at Students who are Interested in Understanding the Game Development Process and Steps Involved in Making 3D AAA Games. This Paper Includes an Overview of Game Development Life Cycle (GDLC) and professional Software programs as well as tools used During GDLC.

In any professional game department, there are different teams which perform different tasks. For example: team of game designers, 3D modelling artists, level designers, texturing artists, lighting artists, animators, Developers, Businesspeople etc. it is necessary for any student to understand the roles each team perform and their primary goals.

This paper will be focused on examining tools such as Autodesk Maya, Substance Painter, and Unity. All these tools are professionally used by game developers.

### 2. GAME DEVELOPMENT LIFE CYCLE

GDLC is most commonly used software development life cycle for developing games. GDLC includes different stages like Pre-production stage, Production stage, Testing (Both Alpha & Beta ) and Release.

#### 2.1 Pre-production stage

This stage mainly focused on Visualization and Concept. Visualization is the process where many game designers visualize unique and interesting concepts for new games. These unique and interesting concepts then put into written format known as Game Design Document (GDD). GDD is same for every game where you have to fill a form. Each team member of game designer team has to submit at least 5 Game Design Documents every month.

This GDD document then selected by the company and a prototype is made according to the GDD. This prototype is a primitive version of real game only having basic functionality. GDD Example<sup>[3]</sup>

## 2.2 Production Stage

Production stage is basically where the actual game is made. The prototype model of a game that is made in pre-production stage will be processed and refined in this stage. This stage has different substages like, Designing, texturing, lighting, colour correction etc.

Project Design Document		
		mm/dd/yyyy Student Name
<b>Project Concept</b>		
<b>1</b> <b>Player Control</b>	<p>You control a <span style="border: 1px solid black; padding: 2px;">playerType</span> in this <span style="border: 1px solid black; padding: 2px;">top Down / side view / isometric</span> game</p> <p>where <span style="border: 1px solid black; padding: 2px;">user input type</span> makes the player <span style="border: 1px solid black; padding: 2px;">description of player movement.</span></p>	
<b>2</b> <b>Basic Gameplay</b>	<p>During the game, <span style="border: 1px solid black; padding: 2px;">types of objects</span> appear from <span style="border: 1px solid black; padding: 2px;">area(s) of the screen</span></p> <p>and the goal of the game is to <span style="border: 1px solid black; padding: 2px;">goal of the game.</span></p>	
<b>3</b> <b>Sound &amp; Effects</b>	<p>There will be sound effects <span style="border: 1px solid black; padding: 2px;">description of sound effects</span> and particle effects <span style="border: 1px solid black; padding: 2px;">description of particle effects</span></p> <p>[optional] There will also be <span style="border: 1px solid black; padding: 2px;">description of any other expected special effects or animation in the project.</span></p>	
<b>4</b> <b>Gameplay Mechanics</b>	<p>As the game progresses, <span style="border: 1px solid black; padding: 2px;">description of gameplay mechanic,</span> making it <span style="border: 1px solid black; padding: 2px;">effect of gameplay mechanic</span></p> <p>[optional] There will also be <span style="border: 1px solid black; padding: 2px;">description of any other gameplay mechanic(s) and their effect on the game.</span></p>	
<b>5</b> <b>User Interface</b>	<p>The <span style="border: 1px solid black; padding: 2px;">score/lives/time</span> will <span style="border: 1px solid black; padding: 2px;">increase/decrease</span> whenever <span style="border: 1px solid black; padding: 2px;">condition to change score/lives/timer.</span></p> <p>At the start of the game, the title <span style="border: 1px solid black; padding: 2px;">"Working title</span> will appear and the game will end when <span style="border: 1px solid black; padding: 2px;">condition to end the game.</span></p>	

Production stage always comes with a timeline in which the team has to complete different stages of production stage.

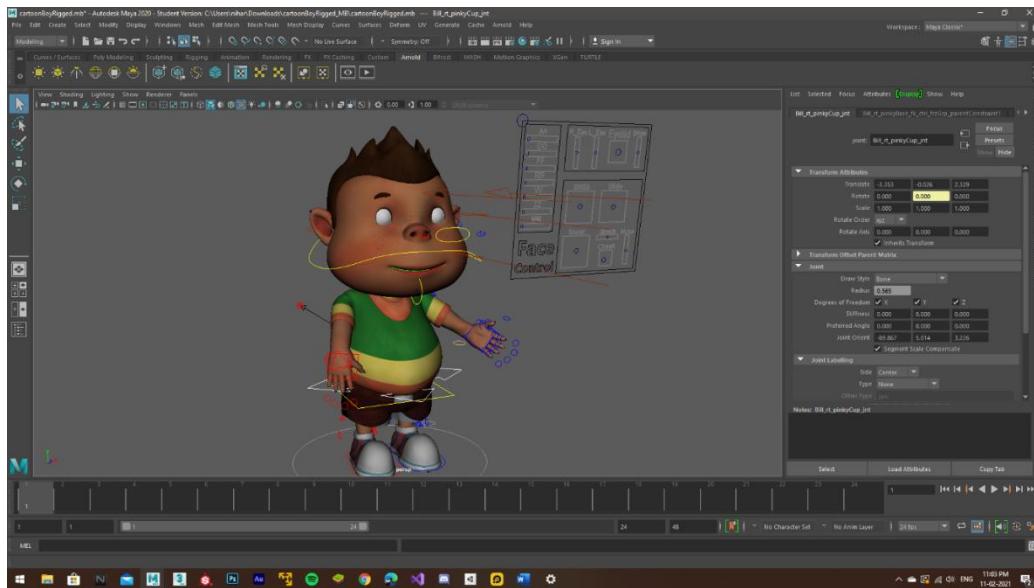
### 2.2.1 Designing :

In this stage all the designing processes like Environment design, character design, Game level Design will be done. This sage also includes 3d modelling of different assets. Assets includes 3d models, sound fx and particle effects which are used in game.

There are many software programs that are used for making game models. But the industry standard software is Autodesk Maya.

### 2.2.2 Autodesk Maya :

Autodesk Maya is an application used to generate 3D assets for use in film, television, game development and architecture. It is a full featured program with tools for modelling, animation, and motion capture. The reason why Maya is used professionally is because of its versatility and easy to learn interface. <sup>[4]</sup>



Autodesk Maya<sup>[5]</sup>

### 2.2.3 Alternate 3d modelling software programs :

#### 1. Blender

Industry standard open source software mainly used for 3d modelling and particle effects like fire, dust, and smoke effects. Many small scale game producers use this software program because it is free and lightweight.

#### 2. Autodesk 3D Studio Max (3ds max)

3ds max is mainly used in high quality AAA games where high poly assets are needed. Main advantage for 3ds max is that we can use multiple plugins to make our work more efficient.

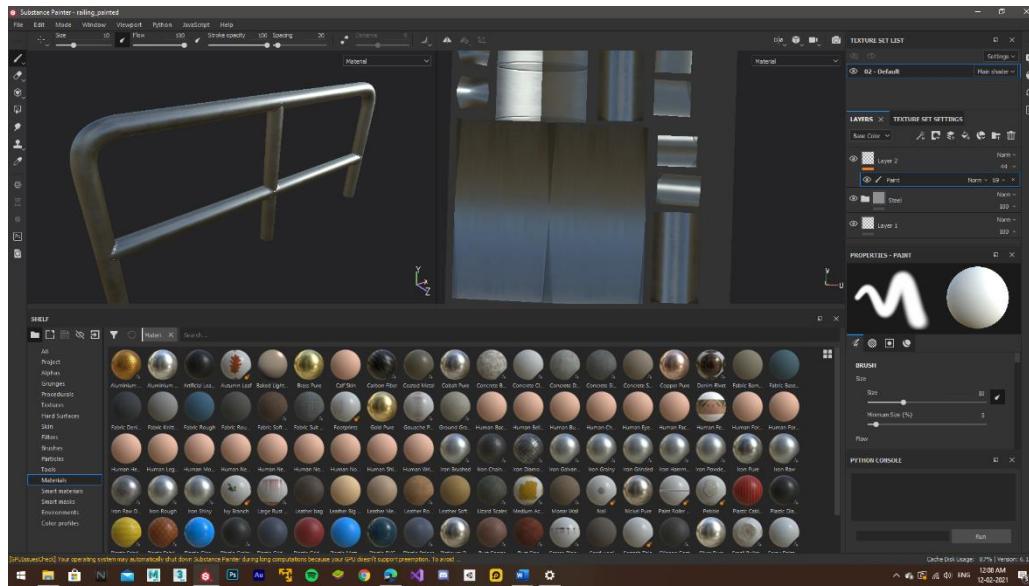
### 2.3 Texturing :

After modelling process of 3D assets is done then all the assets go to texturing artists. texturing artist will use software programs to look those assets realistic.

Texturing is a method for defining high frequency detail, surface texture, or colour information on a computer-generated graphic or 3D model. basically texturing is used to show any object with a specific pattern of colour, roughness, metallic nature etc. we use UV mapping method to arrange the co-ordinates of any 3d model before texturing.<sup>[2]</sup> Substance painter is used for texturing the assets and make them look realistic.

### 2.3.1 Substance painter :

The main purpose of Substance Painter is to texture models. Its advance masking and procedural texturing tools allow you to make textures that are much harder to achieve in purely 2D programs like Photoshop.



Substance Painter

### 2.4 Game Engine :

A game engine, also known as a game framework or game-frame, is a software-development environment designed for people to build video games. Developers use game engines to construct games for consoles, mobile devices, and personal computers. For small scale game studios game engines is the best way to be more efficient and productive by using a pre existing platform.

Game engines manage the transformations, collisions, animations, and triggering of events for all the game objects in your scene. And it is at this stage, where you enable the user to control what is happening in the game.<sup>[1]</sup>

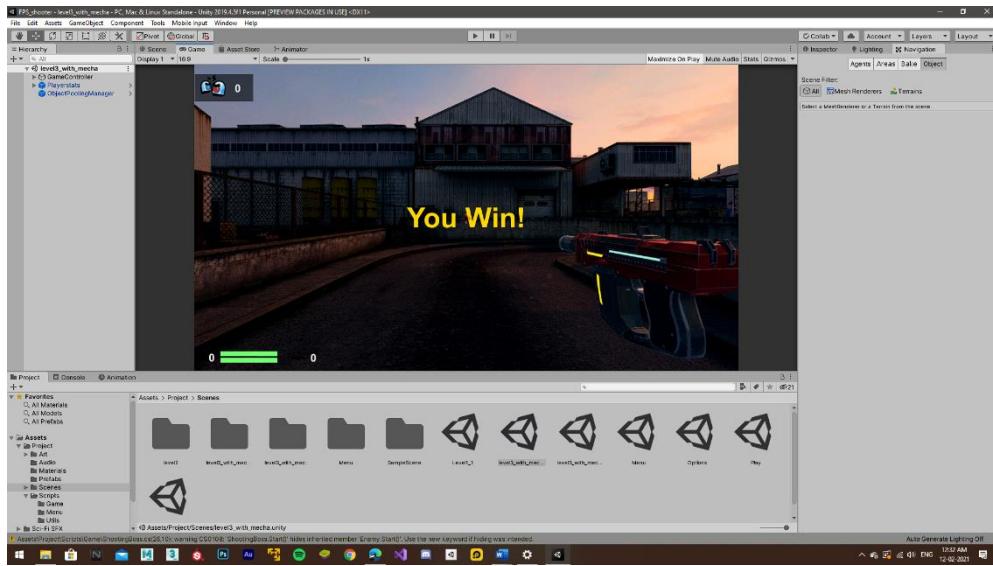
#### 2.4.1 Unity Game Engine :

Unity is a cross-platform game engine developed by Unity Technologies. Unity projects can be developed on Windows and Mac environments, for multiple platforms. Unity gives users the ability to create games and experiences in both 2D and 3D.

#### 2.4.2 Unity Asset store and Packages :

Asset store in unity is where people post different assets either for free or paid. By using pre existing assets sometimes game studios can save a lot of time.

Packages are basically Plugins that are used to make working in unity more easy. Some



packages can add a lot of functionality to your pre existing unity game engine.

Unity 3D

#### 2.4.3 Alternate Game Engines :

##### 1. Unreal :

Unreal is an open source game engine developed by epic games. It is more useful for 3d game creation than unity because of its built in templates. The main drawback of unreal is it is very heavy software and needs much more faster system.

##### 2. Godot :

Godot is free and open source game engine mainly used for 2d game creation. It is very light weight and good program for indie game developers.

#### 2.5 Testing and Release :

Testing is done when production process is done. There are 2 types of testing done during this period of time alpha and beta testing.

##### 2.5.1 Alpha testing :

Alpha testing is where the basic functionality of the game is checked. This testing includes user controls, game mechanics checking, error checking and correction. Alpha version is only released to a small number of people.

##### 2.5.2 Beta testing :

Beta testing is done by releasing the game to small number of people and checking their impressions of the game. Beta testing involves checking user experience and quality control.

##### 2.5.3 Release :

Once the testing period is done, the game is released to the specific platform. Most popular platforms to develop games on are windows, mac OSX, Android, iOS etc.

### 3. CONCLUSION

Developing a game from start to finish is a very time-consuming process, but by following the robust pipeline given in the paper you can work more efficiently and take less time on unnecessary things.

This paper has provided a rough overview for students to take a step by step approach and understand workings of things.

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## Realizing the Importance of Technology Post COVID-19

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### ABSTRACT

The Covid-19 pandemic and the social distancing that followed have affected all walks of life and education. In order to keep education running, educational institutions have to quickly adapt to the situation. This has resulted in an unprecedented push to online learning. Many, including commercial digital learning platform providers, have rushed to provide their support and 'solutions', sometimes for free. This paper sites critical analysis to reflect on the possible problems arising from hasty adoption of commercial digital learning solutions whose design might not always be driven by best pedagogical practices but their business model that leverages user data for profit-making. Moreover, already before Covid-19, there has been increasing critique of how educational technology is redefining and reducing concepts of teaching and learning. Therefore, this is a critical moment to reflect how the current choices educational institutions are making might affect with Covid-19 education and online learning.

**Keywords:** *Educational Technology, Digital Learning Platform, Pedagogical practices*

### 1. INTRODUCTION

Epidemics and pandemics have been threatening the human race time and again. SARS, H1N1, Ebola, and more have shown their teeth in the past, but with each such outbreak, we are learning new ways of fighting and managing such unexpected diseases that can potentially kill millions of people. Technology cannot prevent the onset of the pandemics; however, it can help prevent the spread, educate, warn, and empower those on the ground to be aware of the situation, and noticeably lessen the impact. Today, with converging technologies like mobile, cloud, analytics, robotics, AI/ML, 4G/5G, and high-speed internet, it has become possible to test several innovative approaches to pandemic response. Here, we have listed eight such areas where technology play a vital role:

The Covid-19 pandemic raging around the globe has caused large-scale institutional and behavioural 'shock effects' in various areas of human activity including education. The impact on learners is unprecedented: on 9 April 2020, there are over 1,500,000,000 students worldwide from primary to tertiary level who cannot attend school (UNESCO 2020). Due to massive and unexpected closures, affected countries and communities have been forced to seek quick fixes in different digital learning platforms. These rapid moves from classroom to online teaching have set aside the more profound questions related to national educational policies and theoretical grounds and premises. People may be unable to decide whether a new disease or a new outbreak is trivial or whether it is really something enormously important. They swing backwards and forwards from one state of mind to another. At the same time, different actors in administrative positions provide their accounts of how to make sense of the situation and ensure the continuation of teaching and learning. Politicians are, of course, at the front line of educational policy-making, simultaneously setting restrictions and measures based on health experts' assessments and constructing their official and authoritative narratives. Lockdowns affect students in multiple ways, reinforcing inequalities and putting them under social and psychological stress. Parents and custodians are affected too, and many

of them come to realize, perhaps for the first time, the social purpose of the educational system and its power to structure everyday life.

## 2. IMPORTANCE OF TECHNOLOGY

**1. Tele-health:** Tele-health can be an effective way to contain the spread of COVID-19 while still providing essential primary care. Wearable personal IoT devices can track vital signs. Chat-bots can make initial diagnoses based on symptoms identified by patients. However, in countries where medical costs are high, it's important to ensure tele-health will be covered by insurance. Tele-health also requires a certain level of tech literacy to operate, as well as a good internet connection. And as medical services are one of the most heavily regulated businesses, doctors typically can only provide medical care to patients who live in the same jurisdiction. Regulations, at the time they were written, may not have envisioned a world where tele-health would be available.

**2. Online Entertainment:** Although quarantine measures have reduced in-person interactions significantly, human creativity has brought the party online. Cloud raves and online streaming of concerts have gained traction around the world. Indian film production companies also released films online. Museums and international heritage sites offer virtual tours. There has also been a surge of online gaming traffic since the outbreak.

**3. Online Shopping and Robot Deliveries:** Online shopping needs to be supported by a robust logistics system. In-person delivery is not virus-proof. Many delivery companies and restaurants are launching contactless delivery services where goods are picked up and dropped off at a designated location instead of from or into the hands of a person. However, before robot delivery services become prevalent, delivery companies need to establish clear protocols to safeguard the sanitary condition of delivered goods.

**4. Digital and Contactless Payments:** Cash might carry the virus, so central banks in China, US and South Korea have implemented various measures to ensure banknotes are clean before they go into circulation. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of COVID-19. Digital payments enable people to make online purchases and payments of goods, services and even utility payments, as well as to receive stimulus funds faster.

**5. Remote Work:** Many companies have asked employees to work from home. Remote work is enabled by technologies including virtual private networks, voice over internet protocols, virtual meetings, cloud technology, work collaboration tools and even facial recognition technologies that enable a person to appear before a virtual background to preserve the privacy of the home. In addition to preventing the spread of viruses, remote work also saves commute time and provides more flexibility.

**6. Distance Learning:** Almost all countries announced or implemented school or university closures, impacting 1.57 billion students. Many educational institutions started offering courses online to ensure education was not disrupted by quarantine measures. Technologies involved in distant learning are similar to those for remote work and also include virtual reality, augmented reality, 3D printing and artificial-intelligence-enabled robot teachers.

**7. Supply Chain:** The COVID-19 pandemic has created disruptions to the global supply chain. With distancing and quarantine orders, some factories are completely shut down. While demand for food and personal protective equipment soars, some countries have implemented different levels of export bans on those items. Heavy reliance on paper-based records, a lack of visibility on data and lack of diversity and flexibility have made existing supply chain system vulnerable to any pandemic.

**8. 3D Printing:** 3D printing technology has been deployed to mitigate shocks to the supply chain and export bans on personal protective equipment. 3D printing offers flexibility in production: the same printer can produce different products based on different design files and materials, and simple parts can be made onsite quickly without requiring a lengthy procurement process and a long wait for the shipment to arrive.

**9. Robotics and Drones:** COVID-19 makes the world realize how heavily we rely on human interactions to make things work. Labor intensive businesses, such as retail, food, manufacturing and logistics are the worst hit. COVID-19 provided a strong push to rollout the usage of robots and research on robotics. In recent weeks, robots have been used to disinfect areas and to deliver food to those in quarantine. Drones have walked and delivered items.

**10. 5G and Information and Communications Technology (ICT):** All the aforementioned technology trends rely on a stable, high-speed and affordable internet. While 5G has demonstrated its importance in remote monitoring and healthcare consultation, the rollout of 5G is delayed in Europe at the time when the technology may be needed the most. The adoption of 5G will increase the cost of compatible devices and the cost of data plans. Addressing these issues to ensure inclusive access to internet will continue to be a challenge as the 5G network expands globally.

### **3. BENEFITS TO EDUCATION SECTOR**

Some forms of emergency online learning are being criticized for failing to adhere to sound pedagogical principles, best practices, and earlier research. Quickly jumping on board with learning platforms and online learning has also raised concerns about privacy and surveillance and the impact on students' lives and human dignity.

In the moment of crisis, educational organizations should think carefully about their choices regarding online learning and education technology. These choices can potentially echo in the future as new relations of power and control, new forms of student inequity and inequality, and other unpredictable effects. In order to mitigate possible negative impacts, educational organizations should leverage past knowledge of online learning as something that can be more varied than just a way to deliver information. Online learning can take many different forms, including those pedagogically more innovative and engaging than commonly used processes of knowledge delivery and assessment. It can be informed and shaped by different education-philosophical and pedagogical underpinnings.

Online learning is often understood as synonymous to content-driven self-study, where the advantages are limited to independence of time and space. However, a digital learning environment which consists solely of textual files and lecture capture videos shared through a learning management system is very different from a digital learning environment that

utilizes a situated online learning design such as the authentic learning framework, which centralizes collaborative knowledge construction and complex, authentic learning. Furthermore, engaging teachers and students in the development, implementation, and use of education technology can affect how successfully technology can support meaningful teaching and learning.

#### 4. CONCLUSION

Today the greatest risk of worldwide catastrophe is pandemic, an enormously infectious virus that's more devastating and may kill many people. The transparency that we have gained through this current COVID-19 situation, we now understand that we were not geared up for this pandemic situation. The next pandemic is not a matter of "if it happens", but "when it happens", would we be prepared in advance against the pandemic at an individual and collective level. What we actually need is preparedness. Indeed, the technology has advanced more and will continue to advance exponentially, but the human institutions and societies need to accelerate in adapting to it and continue investing in building the technology systems for the preparedness. After the COVID-19 outbreak, it is evident that, from AI to robotics, the technology innovations are helping to manage the epidemic and better equip to fight future public health emergency in a timely, systematic, and calm manner.

An urgent task in the Covid-19 pandemic is to actively engage people, networks, projects, research, and public discussions to promote critically and reflectively informed praxis. We need to apply and develop critical applied research methodologies and create design principles for democratic and emancipatory digitalization of education. Moreover, we need wider societal dialogue about purposes of education and about the kind of society we want to develop in the with Covid-19 world. Technology and their providers should follow suit.

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## **Role of Ergonomic Factors in Workplace Satisfaction During Post Covid-19: A Study Among the Nurses Working in Super Specialty Hospitals in Chennai**

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### **ABSTRACT**

Pleasure at work represents a combination of positive feelings that workers have towards their work. Meanwhile, when a worker employed in a business organization, brings with it the needs, desires and experiences which determines expectations that he has dismissed. Pleasure at work represents the extent to which expectations are and match the real awards. Pleasure at work is closely linked to that individual's behaviour in the work-place (Davis et al.,1985). Herzberg's Two Factor Theory is probably the most often cited point of view. In fact the main idea is that employees in their Work scape factors are under the influence of factors that cause pleasure at work and factors that cause pain at work. The Present study is focused on measuring the role of Work scape factors impact on the pleasure at work of nurses working in the corporate hospitals in Chennai. The data required for the study is collected through structured questionnaire. The present study covers the entire Chennai covering all the corporate and big size corporate hospitals Majority of these hospitals are 24X7 in nature and dealt with multi specialty care services. The results state that, there is a highly significant impact of Work scape factors on the pleasure at work of the nurses working in the corporate hospitals in the sample area. A care and concern on improvement of working conditions can help in improving the pleasure at work and there by quality of services in the health care industry.

**Key Words:** *Quality – Work scape- work culture- working teams-health care.*

### **1. INTRODUCTION**

Pleasure at work is a worker's sense of achievement and success on the job. It is generally perceived to be directly linked to productivity as well as to personal well-being. Pleasure at work implies doing a job one enjoys, doing it well and being rewarded for one's efforts. Pleasure at work further implies enthusiasm and happiness with one's work. Pleasure at work is the key ingredient that leads to recognition, income, promotion, and the achievement of other goals that lead to a feeling of fulfillment (Kaliski,2007).

### **2. REVIEW OF LITERATURE**

Pleasure at work is under the influence of a series of factors such as: The workplace, physical arrangements at workplace (Scape) pay and perks, career growth, Management behaviour, Work groups and Working conditions. Therefore, the issue weather pleasure at work and pain at work are two opposite and excludable phenomena? Herzberg's Two Factor Theory is probably the most often cited point of view. In fact, the main idea is that employees in their Work scape factors are under the influence of factors that cause pleasure at work and factors that cause job dissatisfaction. Therefore, all factors that have derived from a large empirical research and divided in factors that cause pleasure at work and pain at work factors.

### 3. RESEARCH METHODOLOGY

The present study covers the entire Chennai covering all the corporate and bigger size corporate hospitals. Majority of these hospitals are 24X7 in nature and dealt with multi specialty care services. Many hospitals are equipped with latest medical and surgical and diagnostic care facilities. These hospitals get patients from the southern and northern states of India. Few hospitals have the foreign patients and also have NRI and foreign patient facility centres. Some of the hospitals in the study are Apollo Group, Billroth group, Apollo Group, Ramachandra, Mehta hospitals, Sundaram medical, Fortis Malar hospitals, Vijaya health care, Miot hospitals, SIMS hospitals, Global Health City, Chettinad hospital, and Balaji hospitals, Md.Reela Specilaity etc. The study covers all age groups of nurses and all divisions of medical care. Outpatient service care is also considered for the study.

#### Objectives of the Study

1. To study the profile of nurses in terms of personal and professional variables in the sample area.
2. To study the Work scape factors among the corporate hospitals in the sample area.

#### Hypothesis

1.  $H_1$ : Demographical variables (personal) have a direct significant effect on pleasure at work of nurses in corporate hospitals
2.  $H_2$ : Work scape factors have a direct significant effect on pleasure at work of nurses in corporate hospitals

Data collection instrument is validated with the help of pilot study and recommendations were incorporated in the questionnaires. The primary data was obtained through direct communication with the respondents through questionnaire.

### 4. DATA ANALYSIS AND RESULTS DISCUSSION

The present chapter is dealing with data analysis using the different parametric and non parametric statistical tools through a computer version of Statistical package and tests are selected on the basis of the nature of data.

**Table 4.2.1 Distribution of sample on the basis of Type of employment**

Type of employment	Frequency	Percentage	Valid percentage
Permanent	358	69.9	69.9
Temporary	154	30.1	30.1
Total	512	100.0	100.0

Source: Primary data

It is observed from the table 4.2.1 that 69.9 percent of the nurses working in the corporate hospitals are permanent and the remaining 30.1 percent are temporary rolls in the sample area. It indicates that the hospital sector is practicing the certain manpower planning and management practices in recruitment and making the employees as on roll and permanent employees in the sample area. The higher side of permanent nature of nurses working in the corporate hospitals is a good sign. Indirectly it improves the morale of the nurses working in the corporate hospitals and also the loyalty towards the organization. The permanency of the employment status gives confidence and focus on the employment in a static way. The performance metrics followed to convert the temporary employees to permanent needs to be

transparent and encouraging in nature. This can help the nurses and the hospitals to improve service quality, customer satisfaction and there by consistency in the growth and development.

**Table 4.2.2 Distribution of sample on the basis of age**

Age (in years)	Frequency	Percentage	Valid percentage
Below 20	63	12.3	12.3
21-30	162	31.6	31.6
31-40	153	29.9	29.9
41-50	90	17.6	17.6
Above 50	44	8.6	8.6
Total	512	100.0	100.0

Source: Primary data

It is noted from the table 4.2.2 that the age wise composition of nurses working in the corporate hospitals is quite encouraging in nature and found suitable to the best recruitment policies and management practices. The statistics on the sample shows 31.6 percent of the nurses in the sample are belongs to 21-30 years age group, 29.9 percent are belongs to 31-40 years age group, 17.6 percent are belongs to 41-50 years age group and the 12.3 percent are below 20 years and 8.6 percent of the sample are belongs to above 50 years.

The management model refers higher end of bottom level employees and moderate size in number of middle level and the lower percentage of the top level can help in managing the protocols and work culture and authority and responsibility relationships. In addition the span of control is quite competitive and suitable at all points of time. In a way, it helps the employees to learn and grow under the supervision of trained nurses and also have an opportunity to discuss the personal and professional issues to the senior or supervisory level nurses. This can help to improve the level of pleasure at work of the nurses in the corporate hospitals

**Table 4.2.3 Distribution of sample on the basis of educational qualification**

Educational qualification	Frequency	Percentage	Valid percentage
Diploma	101	19.7	19.7
Vocational	120	23.4	23.4
Under graduate	127	24.8	24.8
Post graduate	85	16.6	16.6
Professional	79	15.4	15.4
Total	512	100.0	100.0

Source: Primary data

It is observed from the table 4.2.3 that 24.8 percent of the nurses working in the corporate hospitals are under graduates, 23.4 percent are vocational degree holders, 19.7 percent are diploma holders, 16.6 percent are post graduate holders and finally 15.4 percent are professionals in the sample survey. The composition indicates the best mix in terms of experience and the type of training undergone from the education. This can help in getting best of the professional services from the nurses. It also helps in pleasure at work of the nurses by way of using their expertise in treating the patients.

Pleasure at work also depends on the usage levels of professional expertise gained through education. When the education is not helping in the employment or where there is no relationship between the education and the employment, the degree of professionalism and

the degree of pleasure at work are less when compare to others is observed in many researches. The same was acknowledged by the HR professionals in the hospitals during the interactions on sample survey.

**Table 4.2.4 Distribution of sample on the basis of Experience**

Experience	Frequency	Percentage	Valid percentage
Below 5	129	25.2	25.2
5-10	200	39.1	39.1
10-15	82	16.0	16.0
Above 15	101	19.7	19.7
Total	512	100.0	100.0

Source: Primary data

It is found from the table 4.2.4 that 39.1 percent of the nurses working in the corporate hospitals and considered in the sample are having 5-10 years of experience, 25.2 percent of the nurses in the sample are having below 5 years experience, 19.7 percent with above 15 years experience, and finally 16 percent of the nurses with 10-15 years respectively in the sample indicates the good mix of experience holders in the corporate hospitals in Chennai.

Nurses with different levels of experience, having different fields of expertise can help in sharing, learning and improving the professional expertise and multiple skills to working in different departments of super specialty hospitals. In some cases, it is observed that, the nurses with low level of educational qualification, having good level of understanding on the various specialty skills in the field of nursing services used in hospitals.

**Table 4.2.5 Leadership style adopted in the working hospital**

Leadership style in the working hospital	Frequency	Percentage	Valid percentage
Autocratic	145	28.3	28.3
Participative	367	71.7	71.7
Total	512	100.0	100.0

Source: Primary data

It is noted from the table 4.2.5 that the majority of the corporate hospitals are adopting participative management style in managing the hospitals and nursing services. It is due to the quality of patient and hospital services depend on the service quality of the nurses. Participatory management style provides a long way of relationship with the nursing staff and there by the pleasure at work of the nurses and service quality to the patients can improve from time to time. The existing environment in this dimension is quite appreciable and encouraging.

**Table 4.2.14 Work scape factors and climate along with mean and SD**

Work scape factors and climate related	Mean	SD
Respect from co-workers	<b>3.93</b>	1.211
Feedback from supervisors	3.49	1.416
Feedback from patients	<b>3.98</b>	1.148
Promotion	3.73	1.361
Career development	<b>3.98</b>	1.246
Responsibility allotted to you	<b>3.94</b>	1.215
Flexibility and independence allowed	<b>4.00</b>	1.076

The feeling of being treated equally	3.76	1.358
Salary	<b>3.83</b>	1.279
The rules and routines of supervision	<b>3.94</b>	1.199
The comprehensive goal and guideline in your hospital	3.76	1.371
The organizational climate	<b>3.83</b>	1.337
The quantity of work allotted to you (workload)	<b>3.87</b>	1.334
The equipments used in your hospital	<b>3.88</b>	1.167

Source: Primary data

It is noted from the table 4.2.14, that, Work scape factors and climate related variables affecting the level of pleasure at work among the nurses in corporate hospitals in Chennai are as follows. The primary factors are Flexibility and independence to work, respect from co-workers, feedback from patients, opportunity for career development, allocation of responsibilities well in advance, attractive salary, the rules and routines of supervision with the mean score of 3.94, the organizational climate, the reasonable workload, the equipment used in the hospital, and the quality of relationships with the patients are recorded in the sample survey.

The reasons quoted are multidimensional in nature and to the subject of reasonable in nature. The factors affecting pleasure at work in the service sector where the natures of services are critical and specialized in nature. Majority of the employees in the profession is women and have multiple roles in life. The key here is to balance both the personal and professional activities in day to day life. Hence, flexibility and independence at work related matters can enhance the quality of life and the level of pleasure at work among the nurses.

### **Hypothesis-I**

**Ho:** There is no significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals.

**Table4.3.1 t-test results showing the perceptual differences between the nurses with regard to factors influencing pleasure at work of nurses**

Factors influencing pleasure at work of nurses in private hospitals	Type of employment					
	Permanent		Temporary			
	Mean	SD	Mean	SD	t-value	P value
Working environment and climate variables	80.69	7.11	78.06	8.29	3.644	0.000**

Since P value is less than 0.01, the null hypothesis, There is no significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals is rejected at 1% level of significance. Hence, it is concluded that, there is a highly significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals with regard to the dimension of working environment and climate related variables among the sample.

### **Hypothesis-II**

**Ho:** There is no significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in corporate hospitals

**Table4.3.1 t-test results showing the perceptual differences between the nurses with regard to factors influencing pleasure at work of nurses**

Factors influencing pleasure at work of nurses in private hospitals	Leadership style					
	Autocratic		Democratic			
	Mean	SD	Mean	SD	t-value	P value
Working environment and climate variables	78.26	8.70	80.54	6.99	3.108	0.002**

Since P value is less than 0.01, the null hypothesis, There is no significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in corporate hospitals is rejected at 1% level of significance. Hence, it is concluded that, there is a highly significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in the dimensions working environment and climate factors and professional factors related to nurses in corporate hospitals

***Hypothesis-III***

**Ho:** There is no significant difference between the age groups with regard to the various dimensions of factors affecting pleasure at work among nurses in corporate hospitals

**Table: 4.4.1: ANOVA - relationship between the age groups and the perceptions factors influencing pleasure at work among nurses**

Factors influencing job satisfaction	Age Group in years					F value	P value
	Below 20	21-30	31-40	41-50	Above 50		
Working environment and climate variables	Mean	74.73	79.41	81.22	82.94	78.25	14.151
	SD	(9.25)	(6.49)	(7.42)	(6.66)	(6.78)	

Since p value is less than 0.001, the null hypothesis, There is no significant difference between the age groups with regard to the various dimensions of Work scape factors and climate variables, professional variables and organizational factors affecting pleasure at work among nurses in corporate hospitals is rejected at 1% level of significance. Based on the mean value, it is observed that the high level of pleasure at work is observed among the nurses belongs to the age group of 45-50 years when compared to others in the sample. It may be due to higher level of professional experience and the level of management and adapted to the nature of work and the management style. For other, it is a matter of time and experience to adapt to the situation and work culture.

***Hypothesis-IV***

**Ho:** There is no significant difference among the nurses with different levels of educational qualification with regard to the various dimensions of factors affecting pleasure at work among nurses in corporate hospitals

**Table: 4.4.1: ANOVA -relationship between the different levels of educational qualification holders and the perceptions on factors influencing pleasure at work among nurses**

		Level of Education						
		Diploma	Vocational Course	UG	PG	Professional	F- value	P value
Working environment and climate variables	Mean	75.85	80.55	79.45	80.67	83.96	14.910	.000**
	SD	(8.17)	(7.28)	(6.38)	(6.76)	(7.39)		

Since p value is less than 0.001, the null hypothesis, There is no significant difference among the nurses with different levels of educational qualification with regard to working environment and climate variables and professional variables as factors affecting pleasure at work among nurses in corporate hospitals is rejected at 1% level of significance. Based on the mean value the level of pleasure at work is high among the nurses belongs to professionally qualified group. This is due to the kind of expertise and the level of experience in the field of activity.

## 5. CONCLUSION

Work scape factors influencing pleasure at work of nurses of corporate hospitals are Flexibility and independence to work with the mean score of 4.00, respect from co-workers with the mean value of 3.93, feedback from patients with the mean score of 3.98, opportunity for career development with the mean score of 3.98, allocation of responsibilities well in advance with the mean score of 3.94, attractive salary with the mean score of 3.83, the rules and routines of supervision with the mean score of 3.94, the organizational climate with the mean score of 3.83, the reasonable workload with the mean score of 3.87, the equipment used in the hospital with the mean score of 3.88, and the quality of relationships with the patients with the mean score of 3.96 are recorded in the sample survey. The inferential statistics also indicated the positive and highly significant relationship between the demographic variables like type of employment, leadership style adopted, age, educational qualification and the pleasure at work of nurses of the corporate hospitals in the sample area. A care and concern on improvement of working conditions can help in improving the pleasure at work and thereby quality of services in the health care industry.

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## Study on Investment Behaviour of Women across Financial Products in Mumbai city

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### **ABSTRACT**

This research aimed to establish and explain the behavior of women towards investment decisions based on demographics like gender ,income of women in mumai city. The study sought to fill this existing research gap by looking at the following specific objectives: First was to determine the personal factors that influence investment decision making among women, second was to determine the economic factors that influence investment decision making among income groups.

**Keywords:** Women. *Investment, Gold, Mutual fund,Equities, Fds,Investmwnt instruments*

### **1. INTRODUCTION**

There are large numbers of investment options available in India, where one can invest to gain its benefits in the future. The aim is to earn profit through investment. The most important challenge faced by the investors is taking investment decisions, there are different segment in which an individual can invest such as share of companies, debentures, bank deposit, recurring deposits, mutual funds, post office saving, government securities etc. Preferential investment is the medium which studies different type of factor according to which the investment decision of the individual differs. In our research we broadly study the behaviour of women in Mumbai city. Investing in capital markets makes the people to increase their income comparatively more than other investments like fixed deposits.

### **2. RESEARCH OBJECTIVE**

The primary objective of this study is to know the behaviour of the women across all financial products in Mumbai city.

Hypothesis to test

Ho: Average salary of investors investing in fixed deposits is less than 3.6L pa

Ha: Average income of respondents investing in fixed deposits is more than 3.6L pa

Ho: Gold investment (physical) is not independent of income

Ha: Gold investment(physical) is independent of income

Ho: Average age of investors investing in gold physical is less than 25 years

Ha: Average age of investors investing in gold physical is more than 25 years

Ho: Less than 70% of respondents investing in company fixed bonds are working class (job)

Ha: More than 70% of respondents investing in company fixed bonds are working class (job)

Ho: Investment in PPF is independent of age group  
 Ha: Investment in PPF is not independent of age group

### 3. LITERATURE REVIEW

According to said theories of gender socialization, men socialized to be more outgoing, aggressive and assertive while women to be more sensitive and emotional. The differences in gender role socialization between men and women can be realized as one key factor of gender variation in risk tolerance. Risk taking can also be linked with the notions of aggressiveness and assertiveness in the context of managerial decision-making behaviour.

**In Bandura, (1986)** “looked into both men and women who possessed the domain of decision making found that their risk tolerance was explicitly influenced by self-assertive and self-efficacy. 18 Do male have innate high risk tolerance, compared with female? Although there is no evidence to directly assert that risk preference is a trait and that there are biological differences, lots of previous studies suggest that men in general appear to demonstrate trends to take greater risks than women. Brooke Harrington, a sociologist at Brown University, insisted that females are experiencing with what she calls “demographic risk”: females live longer than males and they have higher probability of extracting from the work force because of their role as mother. Thus, they often keep low benefits of pensions and social security in retirement.”

**McGregor, (2003).** “Differentiated earlier works identified that females have lower risk patience than males in their financial activities, such as choosing low risk investment fund, or saving in fixed horizon. One literature investigated that female in United States invested their pension money more in risk free bound fairly than any high risk stocks. On the contrary, male favour to invest their pension in stocks”.

**Zink Han and Karande (1991)** employed Ilach’s (1964) instrument (Choice Dilemmas Questionnaire) for measuring risk-taking behaviour and found that women tended to be more conservative than men when the former perceived the situation to be ambiguous and hence had to make decisions under uncertainty.

**Hudgens and Atkins (1985)** used a computer-simulated task to investigate gender differences in risk taking and concluded that men are more inclined to take risks than women. 19 In a survey of 27 original investigations of gender differences in individual risk taking, 20 studies indicated greater risk taking for men, 3 indicated greater risk taking for women, 3 suggested conditional differences, and 1 indicated no gender difference.

**Palanivelu and Chandrakumar (2013)** “The developing countries like India face the massive task of finding sufficient capital in their development efforts. Most of these countries find it difficult to get out of the nasty circle of poverty of low income, low saving, low investment, low employment etc. With high capital output ratio, India needs very high rates of investments to make a rise forward in her efforts of attaining high levels of growth. Since the beginning of planning, the stress was on investment as the primary tools of economic growth and increase in national income. In order to have production as per target, investment was considered the vital determinant and capital formation had to be supported by appropriate size of saving”

**Dr. RutaKhaparde and Anjali Bhute** said the perception of investors differs around on the basis of different factors like age, income, experience of investing, investment objectives and

individual social needs. The perception has been studied and analyzed on the basis of individual factors with respect to different macroeconomic variables seems to be bothering the stock market behaviour.

**GnaniDharmaja .V, Ganesh .J, and Dr. Santhi .V** made a study on the Individual Investor Behaviour with Special Reference to Geojit BNP Paribas Financial Service Ltd, Coimbatore. which is published on International Journal of Research in Management & Technology (IJRMT) in april 2012. The study aims at identifying the most and the least influencing factors of the individual investor behaviour. The analysis was divided into 2 phases which are Personal Factors and Behavioural Factors. The study revealed that accounting information is the most influencing group of the individual investor behaviour and neutral information is the least influencing group of the individual investor behaviour. It was found that there are also some behavioural factors like the investor's financial tolerance, emotional risk tolerance and financial literacy which influence the investor's behaviour.

**DhimenJani and Dr. Rajeev Jain** .Dean & Head, Department of Management, University of Kota, Rajasthan, India has done a comparative analysis of investors buying behavior of urban rural for financial assets. This study assesses the impact of various demographic factors like age, gender, education, income etc. On the buying behavioural pattern of both Investors. This was published on International Monthly Refereed Journal of Research In Management & Technology, Volume II, March'13. The data was collected from 200 respondents (100 urban and 100 rural). The survey was conducted during September/October 2012. The study revealed that Age Gender, Occupation, Educational Qualification, Income etc. Have significance impact on the buying behavioural pattern on rural and urban investors, besides that on the basis of priority provided by investor, both investor gives first priority to financial planner and second to risk and return profile, third past performance, forth tax consideration and fifth to the brand.

Another study by **N. Geetha and Dr. M. Ramesh** from Annamalai University on People's Preferences in Investment Behaviour states that There are a lot of investment choices and one must select the most appropriate one. The person dealing with the planning must know all the various investment choices and how these can be chosen for the purpose of attaining the overall objectives. This study examined on people's choice in investment avenues of Kurumbalur. Data were collected using structured questionnaires. The sample size of area is analyzed by tools selected for this study was two hundred and ten respondents were randomly selected from the town. Data were analyzed using descriptive statistics and chi-square technique. After analysis and interpretation of data it is concluded that in Kurumbalur respondents are medium aware about various investment choices but they do not know aware about stock market, equity, bond and debentures. The study is conducted by taking a limited number of sample sizes which is stated earlier. And this study reflects the perceptions of those respondents who are residing in Kurumbalur. All the age groups give more important to invest in Insurance, NSC, PPF and bank deposit. Income level of a respondent is an impotent factor which affects portfolio of the respondent. Middle age group, Lower income level groups respondents are preferred to invest in Insurance, NSC, PPF and bank deposit rather than any other investment avenues.

**Mrs.K.ParimalaKanthy and Dr.M.Ashok Kumar** published a research paper in September 2013 on Holding Behaviour of Individual Investors in Coimbatore District. This study says that the Investment culture of the individual investors is based on their personality characteristics. A study on the investment behaviour is more significant in the formation of policies for the financial market in general and protection of individual investors in particular.

The present study aims to investigate the holding behavior of individual investors on various investment alternatives. The result of the study enabled us to come out with suitable suggestions for the capital market regulators, and investors. Most of the investors prefer small saving schemes, bank deposits and insurance products for their future investments. This may be due to lack of awareness and/or due to interest in physical investments. Hence, it is necessary to propagate awareness and educate the features and similarities of the individual investors.

**Dr. D. Harikanth and B. Pragathi** made a study on role of behavioral finance in investment decision making in November 2013. According to this study Investment decisions also depends on the types of investors, risk tolerance capacity, education, occupation, age, sex, income, marital status, family back ground, living area and environment and attachment with the financial advisor etc. Using the principles of behavioral finance the present study explores the psychological concept of individual attachment style, especially individual investors to different available investment avenues and their investment preference process. This study indicates that there is a significant role of income and occupation in investment avenue selection by the male and female investors. For this an organized analysis has been made by taking primary data collected through structured questionnaire and secondary data for consideration.

**Panda K, Tapan N.P and Tripathi,** (2007) did a survey 125 investors covering the salaried and business class, from the city of Bhuvaneshwar were selected at random. The study revealed that majority of the investors relied on newspapers as the source of information. Financial journals and business magazines were ranked next to newspapers. A large number of investors were of the opinion that they were not in a position to get the required information from the company in time. A sizable number of investors were found to face problems while selling securities. "Safety and Regular Return" stood first and second with regard to the factors associated with investment activities. Equity shares were preferred for their higher rate of return by the investors.

Khaparde and Bhute (2012) found that the perception of investors differs on the basis of different factors like age, income, experience of investing, investment objectives and individual social needs.

Ganesh J, and Santhi .V (April 2012) found that the Individual Investor Behaviour with Special Reference to Geojit BNP Paribas Financial Service Ltd, Coimbatore, which is published on International Journal of Research in Management & Technology (IJRMT). The study aims at identifying the most and the least influencing factors of the individual investor behaviour. The study revealed that accounting information is the most influencing group of the individual investor behaviour and neutral information is the least influencing group of the individual investor behaviour.

Jani and Jain, (September 2012) they made a comparative analysis of investors buying behavior of urban rural for financial assets. Their study assessed the impact of various demographic factors like age, gender, education, income etc. on the buying behavioral pattern of investors. The data was collected from 200 respondents.

N.Geetha and Ramesh (2013) stated on People's Preferences in Investment Behaviour that, there are a lot of investment choices and one must select the most appropriate one. The person dealing with the planning must know all the various investment choices and how these can be chosen for the purpose of attaining the overall objectives.

Shanmugasundaram and Balakrishnan (2011), they conducted research to find the factors influencing the behavior of investors in capital market. They showed that demographic factors influence the investors' investment decisions. Horvarth and Zuckerman (1993), said that biological, demographic and socioeconomic characteristics, together with his/her psychological makeup affects one's risk tolerance level.

Murithi Suriya, Narayanan and Arivazhagan (2012), in their study reveal that female investors dominate the investment market in India. According to their survey, majority of the investors are found to be considering two or more sources of information to make investment decisions. Most of the investors discuss with their family and friends before making an investment decision.

#### 4. RESEARCH METHODOLOGY

##### Source of Data

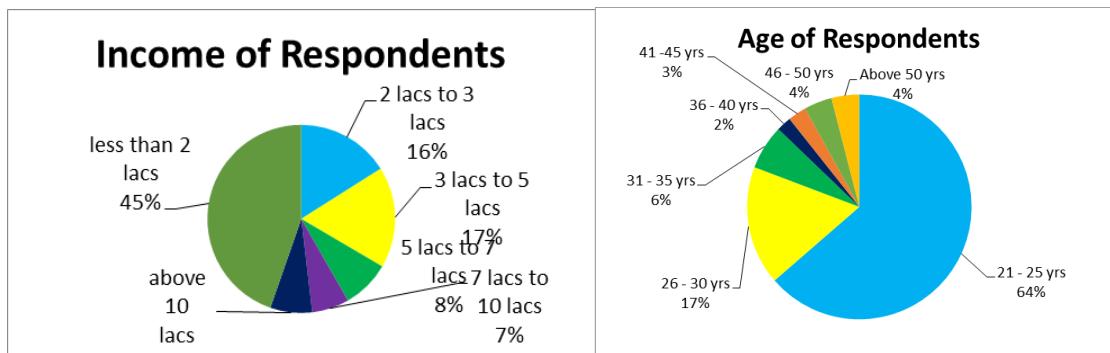
The Data required for the study is combination of primary and secondary data. the primary data is collected from questionnaire method and secondary data is collected by Social Site's (Facebook, Instagram).

The method followed is quantitative in nature. All the data has been collected via online questionnaire with the mix of phone calls as well. Sampling is done across various age groups, income groups, etc. Net number of samples used is 374 individuals. The following research represents the comparative study of individuals across various different financial products. All the data collected are analyzed by different hypotheses tests.

##### Analysis Methodology.

The collected data have been analysed by making use of hypothesis testing.

##### Charts about the sample Profile.



##### Observation:

1.45% of respondent have less than 2 lacs of income.

2.Only 7% of respondent have above 7lacs of income

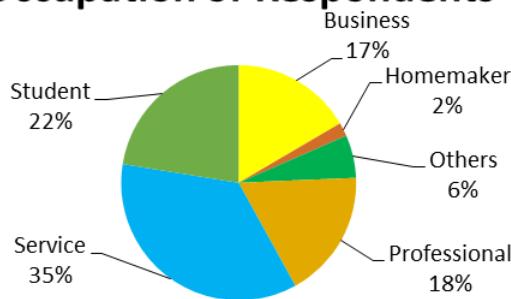
##### Insight.

In Mumbai there are a greater number of Lower Income Group as compare to Higher Income Group because of unemployment, lack of education.

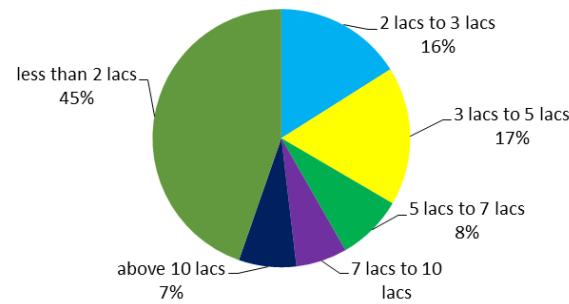
There are average number of Middle-Income groups.

64% of the respondents have age group between 21-25 years. 17% of the respondents have age group of 26-30 years.

## Occupation of Respondents

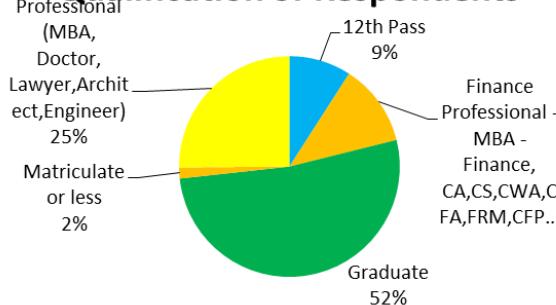


## Income of Respondents



**Observations:** -45% of the respondents have income less than 2 lakhs. 16% of the respondents have income between 2 lakhs to 3 lakhs.

## Qualification of Respondents



**Observations:** -52% of the respondents are graduate. 12% of the respondents are finance professional.

## 5. Data Analysis

T- Test

Ho: Average salary of investors investing in fixed deposits is less than 3.6L pa

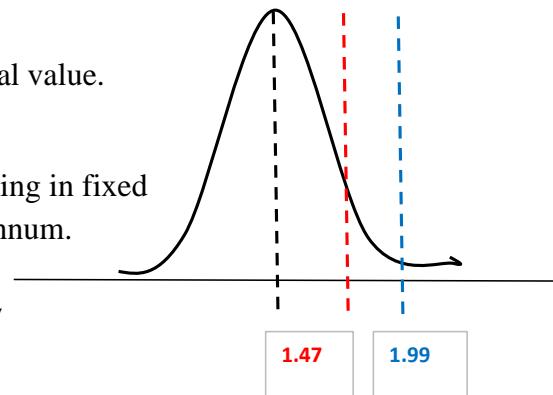
Ha: Average income of respondents investing in fixed deposits is more than 3.6L pa

Income slabs	Proportions					
Particulars Range	10% to 20%	20% to 30%	30% to 50 %	More than 50%	Up to 10%	Grand Total
2 lacs to 3 lacs	13		3		24	40
3 lacs to 5 lacs	9	4	3	2	27	45
5 lacs to 7 lacs	3	2		3	14	22
7 lacs to 10 lacs	8		2		5	15
above 10 lacs	2		5	1	11	19
less than 2 lacs	26	4	5	1	54	90
<b>Grand Total</b>	<b>61</b>	<b>10</b>	<b>18</b>	<b>7</b>	<b>135</b>	<b>231</b>

Reject the null

Observation: Observed value is greater than the critical value.  
( $1.47 < -1.99$ )

Insight: The above test proves that respondents investing in fixed deposits have salary more than Rupees 3.6 lakh per annum. This may be because majority of the investors are looking for a fixed income even though it may be low but has to be guaranteed without any market risks.



### Chi-square Test

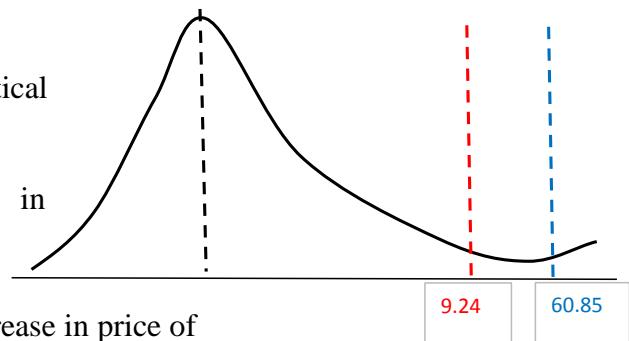
$H_0$ : Gold investment (physical) is not independent of income  
 $H_a$ : Gold investment(physical) is independent of income

Income slabs	Proportions					
Particulars Range	10% to 20%	20% to 30%	30% to 50 %	More than 50%	Up to 10%	Grand Total
2 lacs to 3 lacs	7				23	30
3 lacs to 5 lacs	4	1			23	28
5 lacs to 7 lacs	5	1		1	13	20
7 lacs to 10 lacs	2		1		7	10
above 10 lacs	4	4			5	13
less than 2 lacs	9	2	2	1	46	60
<b>Grand Total</b>	<b>31</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>117</b>	<b>161</b>

Reject the null

Observation: Observed value is greater than the critical value. ( $9.24 < 60.85$ )

Insight: The above test states that investment in physical gold is dependent on income factor. This may be because majority of the people investing in gold may be looking forward and expect the increase in price of gold in future. Also, people invest in gold for future occasions such as Marriage, birthdays, etc.



### HYPOTHESIS

$H_0$ : Average age of investors investing in gold physical is less than 25 years  
 $H_a$ : Average age of investors investing in gold physical is more than 25 years

Row Labels	Count of Timestamp	Frequency	MID POINT	F*M	M-X'	(M-X')^2	F*(M-X')^2
21 - 25 yrs	102	102	23	2346	-4.55	20.73	2114.25
26 - 30 yrs	28	28	28	784	0.45	0.20	5.60
31 - 35 yrs	11	11	33	363	5.45	29.67	326.39
36 - 40 yrs	2	2	38	76	10.45	109.14	218.29
41 -45 yrs	3	3	43	129	15.45	238.62	715.85
46 - 50 yrs	6	6	48	288	20.45	418.09	2508.53
Above 50 yrs	9	9	50	450	22.45	503.88	4534.89
<b>Grand Total</b>	<b>161</b>	<b>161</b>		<b>4436</b>			<b>10423.80</b>
Mean (x')	27.55						
Variance	64.74						
S.D	8.05						

<b>N</b>	Ho= Average age of investors investing in gold physical is less than 25 years	Ho<25
<b>A</b>	Ha= Average age of investors investing in gold physical is more than 25 years	Ha>25

Average age of investors investing in gold physical is more than 25 years

I test  
Right

Right Tail  
Alpha 10%

Alpha 10%  
C: t-critical 1.282

C: t-critical  
O: t-observed

## O: t-observ

x' 27.55

$\mu$  25

$$\mu_s = 8.0$$

sqrt (n) 19.3

q11 (H) 19.5

$$\frac{x - \mu}{\sqrt{n}}$$

sqrt(n)

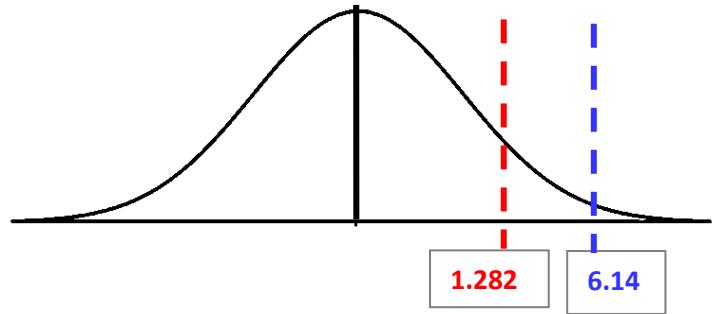
6.1

to  $\geq t_c$

D

### Conclusion - Ha - Average

**Conclusion** Ha= Average age of investors



**Conclusion** Ha= Average age of investors investing in gold physical is more than 25 years

Ho: Less than 70% of respondents investing in company fixed bonds are working class (job)

Ha: More than 70% of respondents investing in company fixed bonds are working class (job)

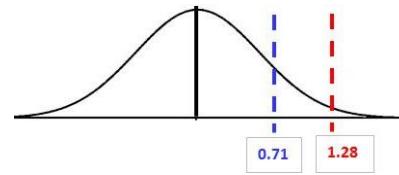
N	Ho<70	Less than 70% of respondents
A	Ha>70	More than 70% of respondents
T	Right Tail	

T P Test  
A 10%  
P 90%

10%

C  
O

1.28



**Zobserved (Zo)**

X	84
n	116
p'	72%
p	70%
q	30%
p*q	21.00%
$\sqrt{p*q/n}$	0.04
$p'-p/\sqrt{p*q/n}$	0.57

P	0.71
A	10%
D	P value is less than Alpha Failed to reject the null

p value

Conclusion Less than 70% of respondents investing in company

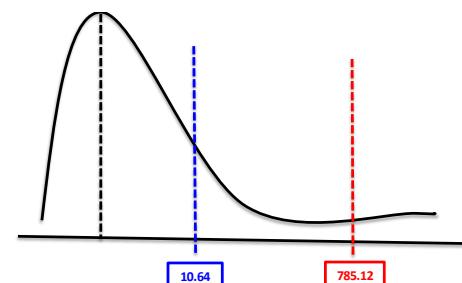
## HYPOTHESIS

Ho: Investment in PPF is independent of age group

Ha: Investment in PPF is not independent of age group

Row Labels	Count of Timestamp(fo)	fe	(fo-fe)	(fo-fe)^2	(fo-fe)^2/fe
21 - 25 yrs	238.00	53.43	184.57	34,066.61	637.61
26 - 30 yrs	64.00	53.43	10.57	111.76	2.09
31 - 35 yrs	24.00	53.43	(29.43)	866.04	16.21
36 - 40 yrs	8.00	53.43	(45.43)	2,063.76	38.63
41 -45 yrs	10.00	53.43	(43.43)	1,886.04	35.30
46 - 50 yrs	15.00	53.43	(38.43)	1,476.76	27.64
Above 50 yrs	15.00	53.43	(38.43)	1,476.76	27.64
<b>Grand Total</b>	<b>374.00</b>				<b>785.12</b>

T	Chi- squared
A	10%
P	10%
C	10.64
O	785.12
P	0.00

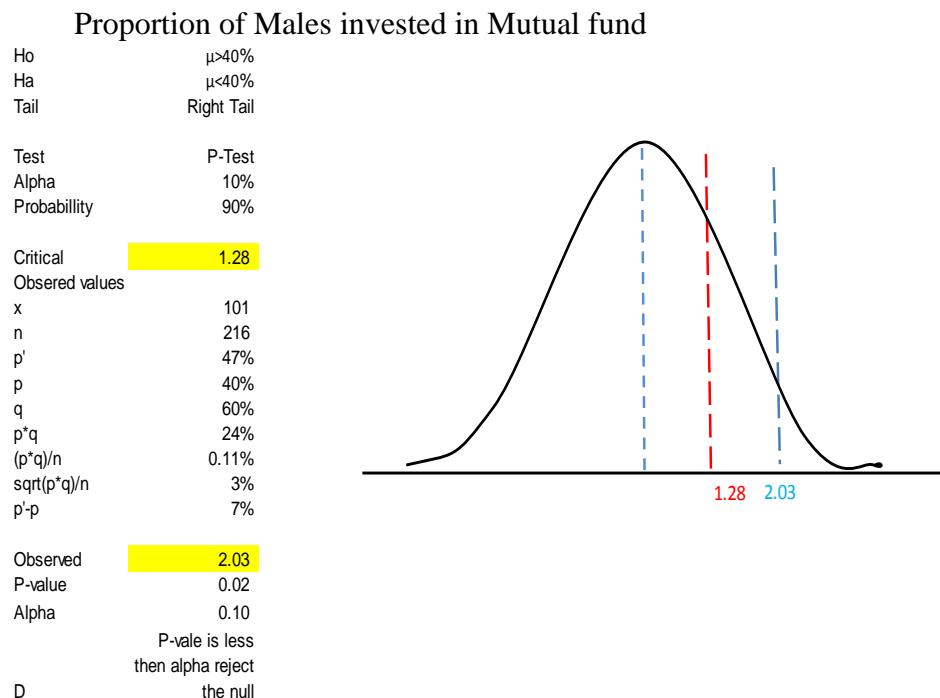


**A** 0.10  
**N** Reject the null p value<alpha

Observation: Investment in PPF is Not independent of age group

Hypothesis

Ho	More than 40% women prefer to invest mutual fund
Ha	Less than 40% women prefer to invest mutual fund



Observation:

Less than 40% of women do investment in Mutual Fund.

Insight:

Women always try to take lower risk. In Mutual fund there is also risk of loss, some of the women don't want risk factor in their investment instead of mutual fund they will go with FD, and post office.

## 6. CONCLUSION

The statistical tests and inferential analysis lead us to conclude the average age of investors investing in gold physical is more than 25 years. Less than 70% of respondents investing in company fixed bonds are working class (job) Investment in PPF is independent of age group. The above study shows the different patterns and individual behavior of women investors across all financial products in market bearing risk and risk free. The sample data included a total of 374 respondents combining of different age groups, income groups, occupation, etc. The above study revealed a decent number of individuals prefer to invest in risk free instruments especially Fixed deposits. The people investing in risk including instruments include mostly the young age group. Also, in addition the investment in gold is also high irrespective of gender and occupation.

## 7. LIMITATIONS

Data collected using the Primary Source was limited to only Online Forums and the ones who didn't have the means of access to internet were excluded from the research. The data collected may have been biased for the reason that the respondents were only from a closed specified area (Mumbai) only so the inferences may not apply to the entire population.

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# The Study of Green Technology in Environment: Sustainable Development in India

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## ABSTRACT

It is essential that an appropriate model of green building be used by the administrators and professionals. The global problems of environmental degradation have forced the society to rethink about the way of development and evolve the concept of sustainable development. Indeed, the new environmentally friendly technologies are fundamental to attain sustainable development. Various green initiatives are being taken to maintain and improve the quality of environment that might flourish on the new resource efficient and sustainable thinking society of the future. This paper tries to establish environmental system improvement basic framework from the perspective of the green technology innovation model, concretely including the improvement of environmental laws and regulations system, environmental accounting system, environment technical standard system and environment economic incentive system through the comparative studies on the green technology innovation and the traditional technological innovation and the difference analysis of environmental system improvement,

**Keywords:** *Green Technology, Energy Efficiency, Sustainable Development, Environment Protection*

## 1. INTRODUCTION

The green technology innovation and the traditional technological innovation

Green technology innovation create economic interests at the same time protect the environment, it requires innovation subject to strengthen production chain, improve the process innovation and the production of waste recycling, to avoid the net consumption of resource dependent. The traditional models of technological innovation based on one-way linear basis, in the traditional technology innovation activities, human as unlimited demand, production and consumption, resulting in a depletion of resources, environmental pollution, the development of economy and society appeared unsustainable.

The content of environmental system of green technological innovation model

The development of green technology innovation can not be separated from strict environmental laws and regulations. The green technological innovation changing from idea to reality behavior should be taken environmental legislation as the guide. So this paper suggests promoting green technological innovation through environmental legislation and there are matching laws and regulations system at all levels. In these laws and regulations, it regulates incentive provisions for the environmental protection industry, the development of environment-friendly products, resource recycling and regulates different responsibilities for different subjects.

Environmental system improvement from the perspective of the green technology innovation model

Through the comparative studies on the green technology innovation and the traditional technological innovation and the difference analysis of environmental system improvement, this paper tries to establish environmental system improvement basic framework from the perspective of the green technology innovation model. As shown in the following figure

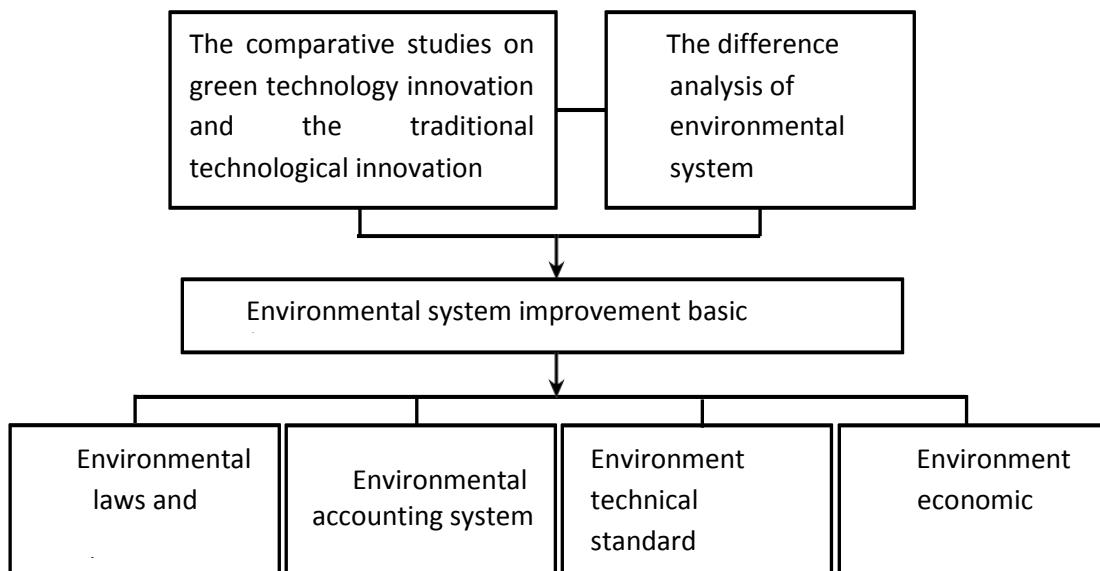


Figure : Environmental system improvement framework of the green technology innovation model

#### Environmental accounting system

The improvement of current accounting system is not including the environment and natural resources cost. Environmental accounting system is still in the stage of research and exploration in our country. The value measurement of the environmental costs and benefits has a certain degree of difficulty. This paper suggest: promote the research and practice work on environmental accounting system step by step; unify the improvement of environmental performance and financial performance; guide enterprises to actively concern about the management behavior impacting on the environment, rational develop and utilize of resources, improve resource reuse rate, eliminate the negative impact on the environment.

#### Historical Background

Economic development is closely linked with the energy development. Most of the world's commercial energy supplies are provided by fossil fuels, with the associated emissions causing global environmental problems. It is feared that not only these levels of energy production and use from current energy sources are difficult to achieve but also unsustainable. Therefore, energy use efficiency needs to be increased to moderate the growth of energy while the contribution from clean energy sources needs to be increased to reduce adverse environmental impacts of energy usage.

Green energy offers a promising alternative to traditional energy sources. The fact that renewable energy accounts for only a modest proportion in meeting the world's (commercial) energy demand means that there is a missing link in their potential and their implementation - the barriers in their implementation. These barriers (either financial or non financial) need to be identified and addressed in order to design innovative policy approaches for the international and domestic financing or renewable energy technologies. Renewable energy can play an important role in helping to meet basic energy needs

through the use of modern technologies Green technologies. The Rio Declaration adopted at United Nations conference on Environment and Development in Rio emphasizes entitlement of healthy and productive human life in harmony with integration of environment protection in the development process. The Earth Summit at Rio adopted Agenda 21 on June 14, 1992, which proposes various actions to be implemented from now and into the 21st century to accelerate sustainable development.

The green technology policy to provide direction and motivation to continuously enjoy good quality and a healthy environment should be based on four pillars:

- Energy: Seek to attain energy independence and promote efficient utilization.
- Environment: Conserve and minimize the impact on the environment.
- Economy: Enhance the national economic development through the use of technology.
- Social: Improve the quality of life for all.

## **2. GOALS OF GREEN TECHNOLOGY**

Every technology has a goal to achieve in order to fulfill the needs of the present generation. But the sophistication shouldn't be only one sided, we should also consider its drawbacks. The main goals of Green technology are meeting the needs without actually damaging the resources or environment. It implies using the ecofriendly products. If we go on producing a new product each time, there will be a huge loss of resource. Then here comes an approach of re-using the used material. In detail, we call it 3R concept which includes:

1. Reduce
2. Reuse
3. Recycle.

‘Reducing’ means minimizing the excess production or lowering the wastage. By being wastage conscious, we can obtain sustainable living for the present and the generations to come. For example, instead of using paper for every purpose we can switch to online document. The other way for reducing the wastage is reusing the products with the help of recycling process. Recycle means the process of taking the used material, process it and make it as new. By this, levels of pollution can be limited. Materials such as glass, paper and metal can be easily recycled. On an average every US citizen produces 730kg of wastage every year for US alone. Some materials like Aluminum coke tins take up to 50 years to degrade into earth. So these needs to be recycled than dumped. Recycling these tins saves energy equal to run TV for three hours. Recycling a pound of steel saves energy which can be used to light a 60-watt bulb for a day. Each newspaper should be recycled for re-use instead of cutting down trees for fresh papers.

## **3. ADVANTAGES OF GREEN TECHNOLOGY**

The main advantages of green technologies are as follows:

- ENERGY SAVING
- ENVIRONMENT FRIENDLY
- COST EFFECTIVE

- SAVE POWER
- REUSE OF NATURAL RESOURCES

#### 4. RECOMMENDATIONS

The recommendations are grouped into three action areas:

- I. Generating new sources of revenues to fund green technologies
  - II. Intensifying dialogue on existing national green policies
  - III. Spurring new international co-operation on green technologies.
- I. Generate new sources of revenues to fund green technologies:** Green technologies not yet price competitive with fossil-fuel technologies. Governments must help in cutting-edge clean technologies and create the framework conditions that enable renewable-energy companies to bring their products to the market. Hence, a key task of any government must be to generate new sources of private and public revenues. Where possible, governments should try to generate incentives for additional private investment in clean-technology research and projects; when private markets fail, public spending must play a role.
- II. Intensify dialogue on existing national green policies:** Individual countries could profit from other countries' experiences. Best practices should be copied while wrong paths do not need to be taken.
- III. Spur new international co-operation on green technologies :** In the light of the various International communique, the following steps should be taken to create a more effective framework for international clean- technology cooperation:
1. Create a Clean tech Investment Forum: The online forum would serve as a one-stop hub with an efficient search system connecting public money, private investors, and clean tech business/entrepreneurs at one's fingertips.
  2. Harmonize green technology standards, codes and contractual principles: Supranational harmonization of standards is important in enabling the uptake of eco innovation and clean technologies and facilitating their dissemination in global markets. In many cases, regulations and standards are more effective than direct government funding.
  3. Create a best-practices expert panel on green technologies: An international panel of stakeholders and experts should define, and advise on, best. In its effort to define the elements of successful policy frameworks for encouraging green technology, the panel needs to take into account regional, geographic and socioeconomic differences among countries and sub-regions.
  4. Improve the knowledge sharing ability of multi-industry multi-technology clean tech research centers: No centralization of research should be pursued rather a bundling of expertise from leading universities and institutes in order to enhance cooperation between regional research centers.
  5. Define legitimate forms of public "green" aid and reduce environmentally harmful subsidies: Uniform definitions of what constitutes legitimate green objectives for state aid will help avoid judicial challenges. To ensure that public spending achieve climate goals without running afoul of state-aid rules and trading agreements, various countries should take the initiative.

**6.** Open and sustain the markets for green technologies through better trade policy: To facilitate the expansion of the cleanest technologies, trade barriers for proven clean technologies should be lifted, including discontinuing direct or hidden subsidies to manufacturers.

## 5. CONCLUSIONS

The green technological innovation is the fundamental way to achieve sustainable development of social economy. This paper compared the green technology innovation and the traditional technological innovation, and tried to establish environmental system improvement basic framework from the perspective of the green technology innovation model, such as the improvement of environmental laws and regulations system, environmental accounting system, environment technical standard system and environment economic incentive system.

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## Volatility of Indian Stock Markets during COVID-19

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### **ABSTRACT**

COVID-19 has caused various changes and has a huge impact on each and every sector and at all walks of life around the globe. The outbreak of COVID-19 has affected the Economy and Financial Markets around the globe. Similarly, is the impact on the Indian Economy and Financial Markets. Due to all the disruptions around the globe, the Indian Financial Markets surged to be highly volatile. Due to the situations aroused out of COVID-19, its effects on the Financial Markets have been investigated in this research and also how the citizens of the nation reacted to this fluctuation. This research paper also displays how the Financial Markets experienced a sudden change in its volatility. The suitable timeline referred is 22<sup>nd</sup> March to 1<sup>st</sup> June (pre- and post-lockdown). Further, the study has attempted to make a comparative analysis of the return of the stock market in pre-COVID-19 and during the COVID-19 situation. The Judgement Sampling method is considered to find the views from the population who have a deep knowledge and are biased to the fundamentals of the same. The research findings show a sharp volatility among the Indian Financial Markets. The paper also tried to investigate what was the core reason for the Indian Financial Market to surge sharp volatility.

**Keywords:** *COVID-19, Indian Financial Markets, Volatility, Effects of volatility on population, Global Economy*

### **1. OBJECTIVES OF THE RESEARCH**

- i. To Understand & Investigate the volatility in Indian Financial (Stock) Markets
- ii. To understand the impact of the pandemic on stock markets
- iii. To understand the impact of Volatility of stock markets on the population

### **2. RESEARCH METHODOLOGY**

- i. Quantitative method of collecting primary data with the help of Survey (Questionnaire) is used.
- ii. Available secondary data was used for the study wherein various internet articles and websites are used.

### 3. LITERATURE REVIEW

A detailed review of literature has been made on the volatility of Indian Stock Markets during COVID-19 to find out the research and to identify the relevant aspects for the study. It is essential for research review to relate literature study as it also helps to understand every aspects and draws light onto the scope of the study.

Authors Rashmi Chaudhary, Priti Bakhshi and Hemendra Gupta analyzed the impact of COVID-19 on the Indian Stock Markets on multiple measuring terms or with the help of various methodologies of Volatility, Standard Deviation, Skewness and Kurtosis of Index returns, concerning two composite indices and eight sectoral indices on a daily basis data from January 2019 to May 2020 using GLS regression.

Their findings from the very beginning to the end resulted as they saw a sustaining positive returns from the Healthcare sector of the nation as it was highly volatile during COVID-19 crisis. It was also found that Healthcare sector and other Indexes were having an Inverse relationship between them as Healthcare seem to rise constantly regardless of the various indexes.

Another finding of the paper was that the Indian Stock Markets depicts roughly the standard deviation compared to the developed economies, but has higher positive kurtosis of returns which made the market more volatile.

### 4. INTRODUCTION

The COVID-19 pandemic has led a drastic loss of human life worldwide and unpredictable challenge to public health, food, industry and overall sectors around the globe. The social disruption and economic downfall caused by the pandemic is very devastating, which resulted millions of people of risk of falling into extreme poverty, Millions of enterprises faced huge losses and many of them went into debts. Half of the global workforce were at risk of losing their livelihoods. The lack of social protection and access to quality healthcare has lost access to productive efficiency. Due to losing the jobs many people are unable to feed themselves and their families, still many daily wage workers and self-employed due to low and irregular income are forced to continue walking to their natives in very unfavorable conditions.

Although there are very limited literatures related to the impact of COVID-19 on financial sector or on business overall, but some studies have bought exiting results, The Ferneiai (2020) in her research found that the finance, insurance sectors and government payers whose finances are actually stretched by COVID-19 will be most likely to cutoff furthermore reimbursements. Capitalvia (2020) in their research/blog found and stated the volatility of Indian Stock Market is seen as major increase, as market halted twice in March 2020, due to lower circuit, as shown by VIX index, the COVID-19 had pushed the Indian benchmark index like Sensex and Nifty-50 to a level similar faced during Global financial crisis of 2008. The stocks of the industries especially hospitality, tourism and entertainment has been adversely affected and fallen by over 40%. As per Sidharth Sachdeva (2020) in his research COVID-19 and the Indian Stock Market movement stated that, the markets are not either not paying adequate seriousness to the pandemic or anticipating the discovery of vaccine more optimistically.

Indian Stock Markets recovering from lows hit in March 2020 has surprised many. The S&P, BSE Sensex, Bellwether index has recovered around 34% (Between March 23-22 June), Shrugging off surging COVID-19 cases, says Renu Yadav (2020) how to prepare for the next Market crash.

## 5. DATA COLLECTION METHOD

The expertise views, opinions and thoughts are provided which is considered to be appropriate for the research. The primary data was collected from working population and those who belong to the same field. A questionnaire was planned and drafted for an effective survey. Afterwards it was distributed and analysed, the final findings and conclusions was derived out of the survey. Judgement Sampling method is used for its easy and simple to adopt feature. It also enables the sample to be proper and true representative and it prevents any inclusion of any irrelevant item into the research.

## 6. SAMPLING

The method used for sampling the data is Judgement Sampling Method which is also known as purposive sampling. This sampling technique is used in which data is analysed on the basis of knowledge and personal/professional judgements. The sample acquired in this research is a number of individuals who possess a deep knowledge and information along with multiple working professionals. The biasness of the sample will preach more accurate information which is valuable for the research.

## 7. SURVEY RESPONSES

### DO YOU INVEST IN STOCK MARKET?

■ YES ■ NO

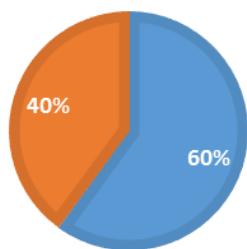


Figure 1

### HOW MUCH RISKY YOU THINK STOCK MARKET IS?

■ 1 ■ 2 ■ 3 ■ 4 ■ 5

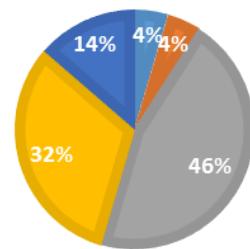


Figure 2

### DO YOU THINK STOCK MARKET IS GAMBLING?

■ YES ■ NO ■ MAYBE

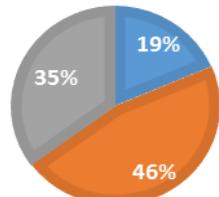


Figure 3

### DID YOU INVEST/DIVEST DURING COVID-19?

■ INVESTED ■ DIVESTED ■ NOT INVESTED

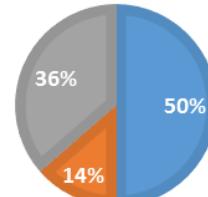
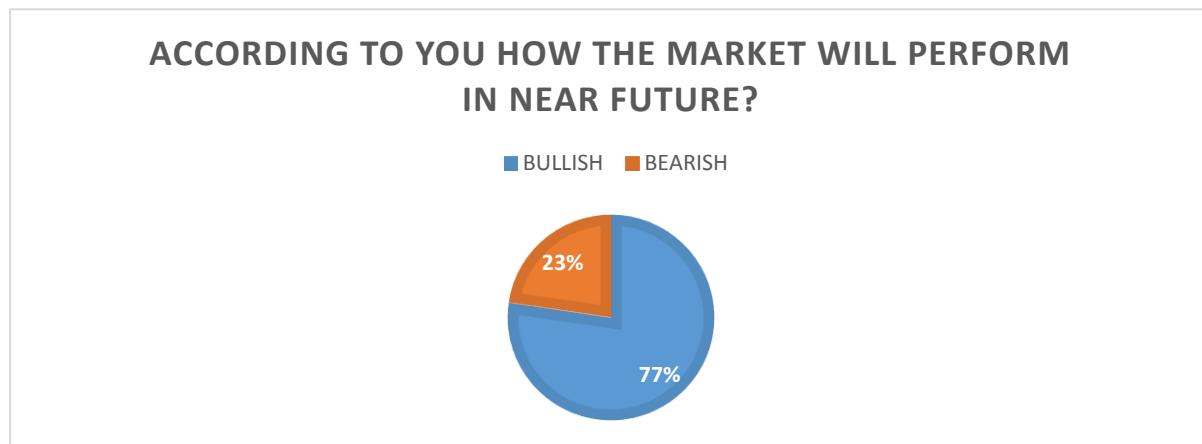


Figure 4



*Figure 5*

#### 8. SURVEY FINDINGS / CONCLUSION

The data presented above refers that more than half of the sample do invest in Stock markets during pandemic. As many of them consider it too risky during the pandemic. A small part of the population does consider Investing a Gamble as ‘Higher returns comes with higher risks’. We can see that half of the population invested their money in Stock Markets during the pandemic, we can consider them as ‘Risk Takers’. Many of them invested in Stock Market with a view of market being ‘Bullish’ in future.

So with a mixture of various reasons the market was too volatile as most of the population squared off their investments during pandemic for various reasons like lack of funds in hand, losing jobs, a view to sustain life with limited funds, etc. this led the market to touch its lower limits while on the other hand the investors a.k.a the risk takers took the advantage of it and started investing, this led the market to regain its upper limits, which in return yield them a good profits instead of the pandemic. If we ask the risky taking investors that where do you invested? They will simply reply- “in the pharma sector as it was the only sector to grow instead of pandemic. The pharma sector did perform well as it was the only sector to tackle the pandemic.

So with the final statement we can say that the market was too volatile due to heavy investments made by the risk taking investors and heavy divestments made by the cautious investors.

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## Women Entrepreneurs in India: Problems and Perspectives with regards to Micro-finance Credit in Mumbai Suburbs

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### **ABSTRACT**

Microfinance in the India has seen tremendous success from past twenty years. The Self-Help Groups which is also called as SHG have found an important place in new micro-financial management activities. Hence there is a need for analyzing the problems faced by the SHG members for availing the micro finance loan in India. Women are working in different sectors, right from traditional agro-based society to modern money-making business in primary and tertiary field. However, the main issue is that in such a traditional society woman lack support and cooperation of their family members and the society. Stiff competition from the male counterparts and other established segments in the society lead women entrepreneurs to face hurdles in their venture. The present paper focuses on these challenges and recommendations in solving those. The Results showed that the lack of proper guidance is the first and foremost problem faced by the sample SHG members. The formalities for getting the loan has been secured as second rank followed by Difficulty to approach the authorities for getting loan is the third important problem. Further, the research shows that the problems are differ among various categories of respondents. Hence, it is suggests that the government and NGOs should take necessary steps for providing proper guidance to the SHG members.

**Keywords:** *Micro finance, challenges, women entrepreneurs, competition*

### 1. INTRODUCTION

In Gujrat, Self-Employed Women's Association (SEWA), was first in India to take initiative to introduction of micro finance, which established SEWA Bank in 1974. Those who want to grow the business in the plural area, this Bank provide financial Service to those individuals. Poverty Eradication Mission 1998 was one of the successful initiatives taken by this bank in Kudumbashree, in Kerala state. The women's from both urban and rural area comes together to fight for their rights and to help empower themselves, through the community organisation of Neighborhood Group (NHG) which was led by all females. In this Neighborhood Group all the women's work in various issues like agriculture health and nutrition. They can give micro credit while working in the scheme by collecting the some income. So the underprivileged area is promoted by some of this small skill initiative taken to build financial independence.

In India to cater large population in rural area it is very much needs to provide microfinance facilities. In India the main objective of the microfinance is to promote social and economic development at the Grass root level by community-based approach, increase in income of household and empowerment of women.

Although we say that women are moving ahead in every occupation, the entrepreneur world is still dominated by the male counterparts. In most of the developed countries of the world,

women operated enterprises are increasing rapidly. However, this is not yet the phenomena in the developing countries like India. Flourishing activities of women in business would also enable economic wellbeing of the nation.

Education industry has opened up wide opportunities to women entrepreneurs, but the required societal changes are not in consistency to provide the growth platform to the women entrepreneurs. The challenges which are faced by women entrepreneurs in the present day are lack of cooperation and support and Cutthroat competition from the rivals.

## 2. REVIEW OF LITERATURE

- **Dr. Valasamma Antony (2007)** mentioned that, the male domination and other prejudices attached to women in Indian society are yet to be challenged. Educating them in the nuances of business and managerial skills is very much necessary. Liberal finance by the organizations and other support systems, particularly by the Government, should be given to them. Success stories of other women entrepreneurs also would help them motivate. Anyway, it is high time that the women step into the mainstream towards the overall economic and social development of our country.
- **K. Sundar, J. Gopu, Syfil Ali (2001)** recommended that women entrepreneurs from different fields have the potential and can establish enterprise of their own. What they need is encouragement and support from the family members, especially their spouse as well as Government and the society. Without their support, the growth of their ventures would not be possible.
- **Arunthati Chalopadhy (2005)** emphasized that economic empowerment is elevating the status of women in our society. One possible towards achieving this end could be through entrepreneurship development.
- **K. Lavanya Latha (2006)** suggested that for the success of women entrepreneurs it is important to give timely financial support, hard work, self-determination, self-confidence and personality traits.
- **Nagayya (2000)** in his article entitled "Micro-finance for Self Help Groups" stated that the fast emerging tool for promotion of income generation in enterprises is providing credits applied to the poor by informal arrangement through Self Help Group. The author has also reviewed the initiative which is taken at National level with the view of institutional arrangement to support this program for poverty eradication among the poor with main focus on women.

## 3. OBJECTIVES

- 1) To identify issue related to lack of cooperation and support and cutthroat competition faced by women entrepreneurs.
- 2) To assess the various problems which are faced by sample women beneficiaries on availing the microfinance loan.
- 3) To find out the measures to overcome these crisis.

## 4. SCOPE

The research is dealing with women SHGs and problems associated with micro-finance in Mumbai Suburban Area. It includes an analysis of socio economic conditions of SHG, motivational factors for joining the SHG, problems in getting the micro finance loan in the study area on the basis of the opinions of SHG members which were collected through interview schedule. The present study does not cover the men SHGs in the study area.

## 5. DATA AND METHODOLOGY ADOPTED FOR THE STUDY

Both primary and secondary sources of data are chosen for the study. Due to lack of access to study the women entrepreneurs on field, it was decided to interview them. With this regard, total 32 women entrepreneurs from the entire field were chosen as the sample for the present research study. Thus, telephonic interview of women entrepreneurs engaged in different activities were taken. This interview was unable to provide insight and guide on the objectives of the study. The secondary data was collected from published sources such as search engines, online study forum, research journals and magazines (both academic and non-academic). The conclusion from the interviews was drawn to fulfill the objectives of the study.

## 6. RESEARCH FINDINGS

After the telephonic interviews with the women entrepreneurs in Mumbai city, it is found that majority of them are entering into the profession and are the part of Self-Help Group because of few important reasons such as improving their social and economic status, promoting saving habits, obtaining financial support for starting up of the enterprises, initiating group activities, having financial independence, lack of permanent jobs for husband, motivation by NGOs, families and friends. Particularly, women entrepreneurs have based the basic problems when it came to getting micro-finance loans. Most common among them are difficulty faced while approaching the authorities for sectioning the loan, improper guidance by authorities, less awareness of loan schemes and institutions, tough form filling task, delay in sanctioning of loans, lack of cooperation among the members and authorities expecting commission. Apart from these basic problems, the women entrepreneurs also faced the main issues with following two core problems –

### 6.1 Lack of Support

The main hurdle, which the women entrepreneurs face, is that she is not able to step out of the house to establish her career. The confidence to do so is completely lacking. Usually women are not able to manage their personal and professional lives together (46 percent of the respondents opined this). Doing justice to their business venture and at the same time managing the family is not very easy for the women entrepreneurs. At times she feels pressurized and in such a situation she gives up on her ventures, leaving them incomplete.

Another root cause of the situation is lack of support from the family members. It was mentioned by 63 percent of the respondents that only if the women entrepreneurs find adequate support from her family in terms of moral and financial support, they could make their lives a great success. Moreover, their male counterparts are of the view that why do you need to work when we are earning. It was noted from the interview that nearly 24 percent of the respondents do not have support from their male counterparts. They are suppressed and said that it is better to sit at home and look after the domestic chores and children. With such a situation she is restricted in four walls of houses.

While interviewing the women entrepreneurs, it was mentioned by few of the ladies that the family members, particularly their husband and in case of unmarried women their father, do not allow them to carry on with their ventures as it feel that such type of ventures are not safe for women and there are chances of molestation. Even some husbands, particularly, uneducated, doubt the character of their wives that she might have extra marital affairs because of which she is moving out of the house every day. Nearly 12 percent of the respondents are depressed with these phenomena. These women are in great dilemma as to continue doing the business or not.

If it is a nuclear family then the support of the spouse and the children is very important. On the other the females belonging to a joint family look forward towards the support from there in-laws and other family members. In the beginning of the venture everything seems to be

bright and all right, but later on the difficulty start rising up. The working of women in this respect is hindered (50 percent of the respondents found that they are facing great challenges now, venturing their projects).

Many of the times it is also difficult for the women entrepreneurs to find right contact for supporting their business ventures. These contacts are usually helpful for women in financing and expanding their activities. It has been seen that the urban women are getting the additional support from various agencies such as NGOs, business houses and other organizations who also guide these entrepreneurs throughout their ventures.

## 6.2 Cutthroat Competition

The most important challenge, which women entrepreneurs face, is cutthroat competition mostly from the organized sector of the economy as well as from the male entrepreneurs. Around 60 percent of the respondents believed that this problem is being enhanced by inadequate capital to start up with the ventures as well as lack of proper advertising required to sell the products in the market. Some of the women entrepreneurs face situation, where the quality of their product is challenged. Here one important fact lies ignored, that women entrepreneurs are more sincere and serious in their work.

Around 73 percent respondents opined that stiff competition in the market unleashes women entrepreneurs from displaying their full potential in carrying out business. whatever incentive the government has provided does not allow the women to stand the growing competitive market. In this relation, Government is helping women entrepreneurs with schemes for retaining and advancing in their respective ventures. This is opined by only 12 percent of the respondents, who are aware of the Governmental schemes.

Thus, nearly 54 percent of the respondents felt that competition, which the women entrepreneur faces is in the form of product quality, prices of the product, profits, packaging, marketing, advertisement and technological innovations. Sometimes it is even seen that the competitors may be involved with bulk production and thus may receive concessions and at various levels of production. Not only the prices but also the latest trend in the market can also be adopted by the completing form, leaving the women entrepreneurs behind the market flow.

## 7. CONCLUSION

From the above discussion it can be concluded that the women entrepreneurs want to reach out in the society making their own significance towards the economy of the nation. It is expected that the barriers here are lack of cooperation and support and stiff competition needs to be overcome. The present study investigated the various problems faced by the women SHG members and impact of the microfinance loan on empowerment of sample women beneficiaries in the study area. Most of the members are not well educated and they are not familiar with the rules and regulations for availing the banking services. They are in need of proper guidance. The research finding showed that the problems are differing among various categories of respondents. There lays not only the government responsibility to tap the potential of women entrepreneurs, but also the family members of these women entrepreneurs who can help out her in full force. Government needs to see that how these women entrepreneurs can organize themselves into a formal organized sector so that they do not face event competition. At the same time it becomes the responsibility of the family members to support these ladies with time and other household chores. Traditional thinking of male dominated society has to be overcome so as to develop a new path for the new women entrepreneurs.

Based on the research finding the following recommendations are made to the authorities who is regulating SHGs.

- The government and NGO's should take necessary steps for providing the proper guidance to needed people to get the microfinance loan.
- The Banks can provide proper assistance for filling the loan application forms.
- Further, the bank formalities should be simplified. The single window system may be introduced for granting micro finance loan to the Self Help Groups.
- The proper training should be given to SHG representatives and animators regarding the bank loan formalities.
- Further, the schemes announced by the government are not reaching the SHG members. Hence, it is necessary to circulate all the new schemes to the rural people through proper monitoring system and guidance.

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## Boon and Bane on Energy efficiency in IoT

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### ABSTRACT

With the emergence of Internet of Thing (IoT), a gigantic rise has been seen in smart applications. IoT is going to be ubiquitous in the near future. Billions of sensors will be installed for the implementation of IoT applications which will generate a massive amount of data. Such massive amount of sensors, data and devices would cost huge amount of money. In addition to the installation cost, energy consumption by the IoT devices emerges as a prominent area of concern. Although IoT applications in themselves are considered to be very energy efficient, however their own energy consumption ratio is very high. Energy efficiency of IoT would make it the long term technology in the upcoming years.

### 1. INTRODUCTION

The Internet of Things (IoT) describes the network of physical objects—“things”—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. The term was coined by Kevin Ashton in 1999. He imagined the world where, internet is connected to the physical world to enhance comfort, security and control of our lives. Battery-operated devices (such as smart sensors, RFIDs, home appliances, surveillance cameras, smartphones, etc.) constitute the major part of the IoT based systems and play a crucial role in renovating our life interconnections and daily activities. Since millions of devices are connected to the internet and the devices are energy constrained, energy is an important factor in IoT.

### 2. OBJECTIVES

1. To evaluate the pros and cons of using IoT-based solutions.
2. To understand the concept of Energy Efficiency and how it applies to IoT.
3. To enumerate the various aspects of IoT that impact the energy efficiency of the IoT ecosystem.
4. To enumerate and understand the various issues faced in deployment of IoT-based solutions.
5. To study the various solutions proposed to increase the energy efficiency of the various aspects of IoT-based solution to solve the various issues faced by IoT deployments.

### 3. ADVANTAGES AND DISADVANTAGES OF IOT:

The applications of IoT are used in various field, and it dominates multiple areas. However, there are many challenging issues in the context of the use of IoT.

### **Advantages:**

- 1. Communication:** It is possible to make faster and efficient communication between interconnected sensor devices.
- 2. Automation:** Automation is the primary advantage of IoT. Automation task increases efficiency and quality of service, avoiding human error.
- 3. Cost-Effective:** As mentioned in the above point, the faster and efficient communication between networked sensor devices makes the daily task easy along with saving time and money.

### **Disadvantages:**

- 1. Security and Confidentiality:** It is one of the biggest challenges in the IoT. Every device is communicating via the Internet. The confidentiality and security of the data transmitted are at high risk and has chances of being hacked by hackers.
- 2. Complexity:** The IoT is a giant network encompassing various devices under it. The single minute loophole in the hardware or software can affect the entire system resulting in catastrophic consequences. Therefore, it is the most complicated aspect of IoT.
- 3. Technological Dependability:** There is no doubt technology is dominating the human lifestyle and witnessing a significant shift in its implementation in our daily lives. Thus, this reflects a human's dependability on technology and affecting necessary human social interaction skills.

## **4. REVIEW OF LITERATURE**

The term Energy Efficiency covers different aspects of a system in IoT and they are as follows:

- Energy correctly received per bit
- Energy reported per bit
- Network lifetime

Many research papers and studies have provided valuable classifications views and surveys of energy-saving techniques for IoT based networks. In this section, we review some of these major works exist in literature, presenting their main focuses and various categories they defined.

- Algis et al. proposed the energy efficient SSL protocol which ensured the maximum bandwidth and required level of security with minimum energy consumption. They explained the basic concept of the SSL and proposed adaptive SSL protocol.
- Gang Wu et al. provided an energy efficient approach in both physical layer and deployment aspects. They also proposed a basic principle of energy efficient optimization. There are various energy related algorithms such as multi-level water filling or bi-section algorithms for optimization.
- Samia Abdullah et al. proposed an architecture considering both routing algorithm and the message scheduling algorithm. Sensors were clustered into groups. It was following a cluster approach. Here, one set of sensor nodes called IoT subgroup, where every node could become the broker each time. Every time the node which is

the broker takes the responsibility of aggregating the data from its nearby nodes and sends the data to the base station.

- Rongxing Lu et al. illustrated an activity scheduling scheme for sensing coverage. In each round, a node selected a random timeout and listened to messages from neighbours before it expired. These messages contained the activity decision. A node decided to be active if its sensing range was fully covered by sensing ranges of a connected set of active neighbours.

Authors	Titles	Issues	Methods used
Algimantas et al.	An energy efficient protocol for Internet of Things	Encryption and authentication	SSL Protocol with maximum bandwidth
Gang Wu et al.	Recent Advances in Energy-Efficient Networks and their applications in 5G Systems	Spectrum efficiency	Optimization-constraints, variables and algorithms.
Samia Abdullah et al.	An Energy-efficient Message Scheduling Algorithm in Internet of Thing Environment	Service response time and energy consumption.	Message scheduling.
Rongxing Lu et al.	GRS: The Green, Reliability, and Security of Emerging Machine to Machine Commutations.	Green, Reliability and Security	Energy efficient activity scheduling scheme

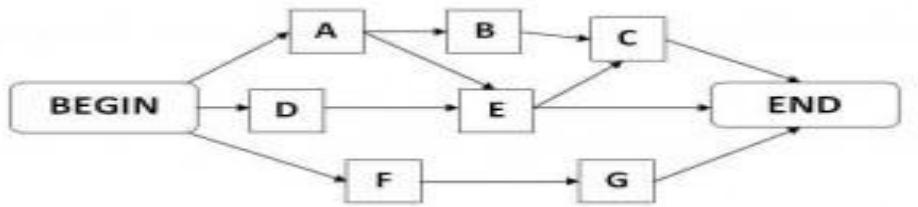
## 5. ISSUES OF ENERGY CONSERVATION IN IOT

- Over Hearing:** High density sensor nodes lead to interferences with neighbour nodes during data conveyance. This is called over hearing. The nodes within reach have this particular problem. This leads to burn up energy resources owing to receiving and processing useless information.
- Collision:** Collision occurs if nodes receive multiple data packets at the same time. Due to this the received data is useless. Transmission process has to be repeated while energy is dissipated. Collision increases latency as well. These transactions could consume quite a lot of energy.
- Traffic Fluctuation:** Traffic can lead to congestion or high delays. If the network is working on its maximum capacity, congestion raises to extremely high level.

## 6. ENERGY CONSERVATION APPROACHES FOR IOT DEVICES:

Based on the above literature, the issues related to energy efficiency in IoT can be summed up in the following manner.

**Node Activity Management:** It is a project management term that refers to a precedence diagramming method which uses boxes to denote schedule activities.



There are two parts in node activity, namely sleep scheduling and on demand node activity.

**Sleep scheduling** is the way to set the node to a sleeping mode and determine the time to wake up. This saves energy in idle time spans. Here, certain periods are determined in which the individual node is in sleeping mode.

**On-demand node** activity is not scheduled, but the node is by default in an active state with a simple functionality. If a wake-up signal is broadcasted, the neighbouring nodes within the area switch to active mode. After activation, the data transmission takes place. As the start-up signal does not have to be decoded, all surrounding nodes are switched on and for the most unnecessarily.

### Security Management:

Energy is an important factor to consider security measures for nodes. But, security systems are no designed for resource-restricted devices. One of the challenges is to make encryption algorithms faster and less energy consuming. The existing techniques are supported for powerful equipment. It is important to limit the energy consumption and thereby extend the battery life. Security measures have significant impact on its energy consumption to perform the encryption and decryption functions. Security requirement involve in each layer of IoT.

In perceptual layer, authentication is necessary to prevent illegal node access. Then, to protect the confidentiality of information, data encryption is necessary. If stronger are the safety measures, it consumes more resources.

In the network layer, it is difficult to apply the existing communication security mechanisms which consume more energy. Confidentiality and integrity are important in this layer.

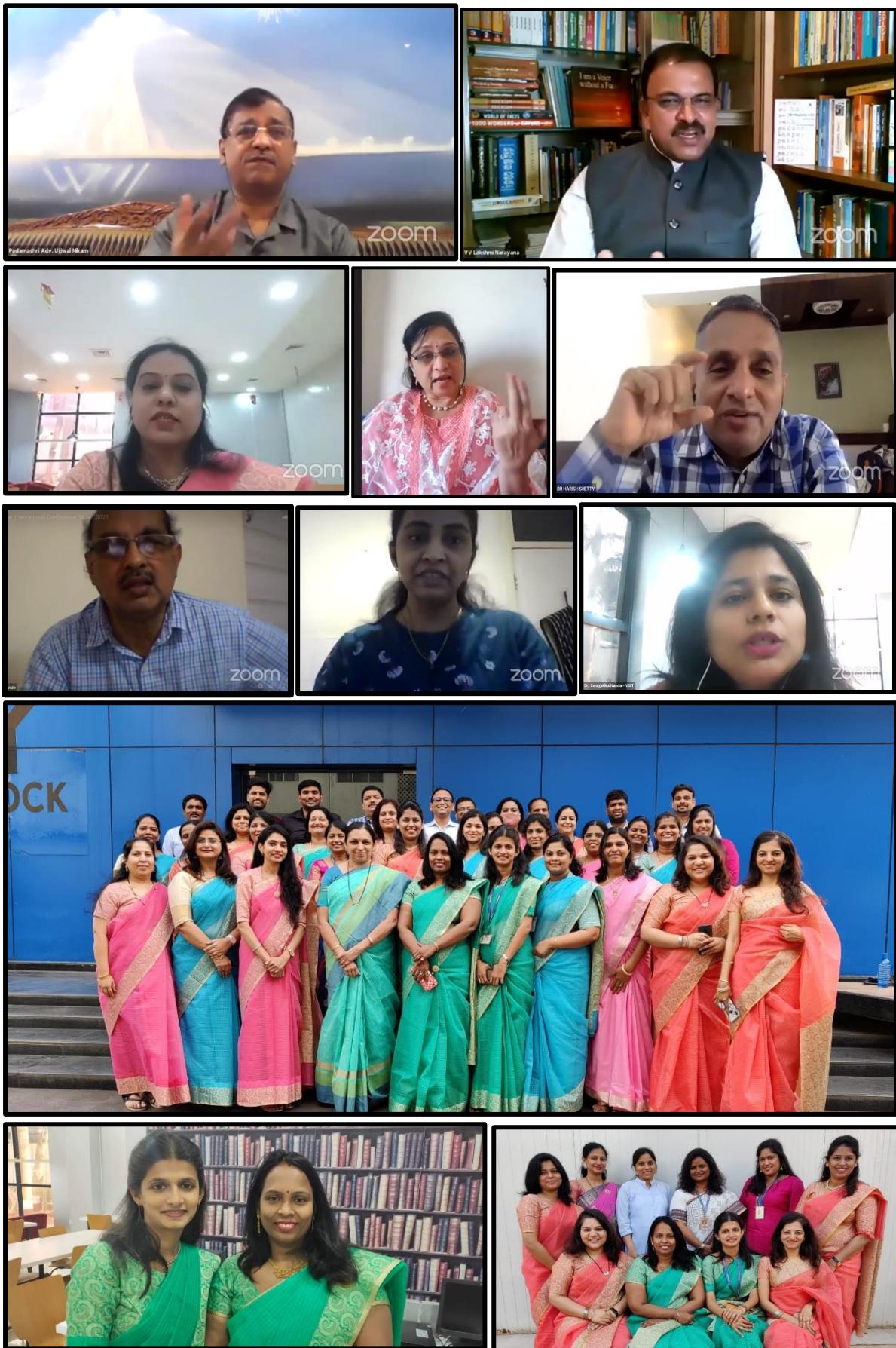
### Routing:

Routing is the act of transferring information across network from a source to a destination. It occurs in network layer. Routing is making the decision which routes to use. Routing can be divided into flat-based routing, hierarchical-based routing, and location-based routing. All nodes are assigned equal role or functionality in flat-based routing. In hierarchical-based routing, nodes will play different roles in the network. Nodes' positions are exploited to route data in location-based routing. These protocols can also be classified into multi-path based, query-based, negotiation based, QoS-based and coherent-based routing.

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