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# IMPACT OF COVID 19 ON COMMERCE AND ECONOMICS

Vol. : I & II

Editor

**Dr. Kumardatt A Ganjre**

**Dr Atul Kumar**



PUB. DIV. :-



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# CHAPTER 01

## HOW COVID-19 AFFECTS THE INVESTMENT BEHAVIOURAL BIAS AND IDIOSYNCRATIC RISK – A LITERATURE REVIEW

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**Abstract:** This study is a literature review that examines the impact of the COVID-19 pandemic on investment behaviour and idiosyncratic risk. It includes 41 articles published between January 2020 and December 2022, and was selected from various databases such as Scopus, JSTOR, and EBSCOhost. The review finds that the pandemic has led to increased volatility and uncertainty in financial markets, amplifying behavioural biases such as the disposition effect, herding behaviour, and overconfidence. Additionally, it finds that the pandemic has led to increased risk aversion and a decrease in herd behaviour among investors and an increase in idiosyncratic risk as market uncertainty increases and certain sectors are disproportionately affected.

**Keywords:** COVID-19, investment behaviour, behavioural bias, idiosyncratic risk, herd behaviour, overconfidence, risk-taking

**JEL Code:** G11, G12, G14, G22.

**Introduction:** The study conducts a literature review to examine the impact of the COVID-19 pandemic on investment behaviour and idiosyncratic risk. The review finds that the pandemic has led to increased volatility and uncertainty in financial markets, amplifying behavioural biases such as the disposition effect, herding behaviour, and overconfidence. Additionally, it finds that the pandemic has led to increased risk aversion and a decrease in herd behaviour among investors and an increase in idiosyncratic risk as market uncertainty increases and certain sectors are disproportionately affected. The study highlights the need for further research to investigate how the pandemic may affect risk and investing behaviour in the long run. The statement of problem highlights that global economies have been significantly impacted by the COVID-19 epidemic, leading to increased volatility and uncertainty in financial markets, which has raised concerns about how the pandemic may affect investment behaviour and risk. Behavioural biases, such as the disposition effect, herding behaviour, and overconfidence, can lead to suboptimal investment decisions. Additionally, idiosyncratic risk, which refers to the risk specific to a particular firm or sector, can significantly influence investing decisions. Therefore, it is important to understand if the COVID-19 pandemic may have had an impact on these variables.

The study proposed three hypotheses: 1) The COVID-19 pandemic will lead to an increase in behavioural biases such as the disposition effect, herding behaviour, and overconfidence among investors. 2) The pandemic will lead to an increase in idiosyncratic risk for firms in certain sectors that have been disproportionately affected by the pandemic. 3) Factors such as age, income, and level of education will moderate how the epidemic has affected risk and investing behaviour. The methodology used in this study is a comprehensive literature review. The authors search relevant articles and studies through academic databases such as Scopus, JSTOR, and EBSCOhost, as well as manual searching through bibliographies of relevant articles. They use keywords such as "Covid-19," "investment behaviour," "behavioural bias," "idiosyncratic risk," and "financial markets" to identify relevant literature. The literature analyse and synthesize the findings to draw conclusions about the effect of Covid-19 on investing strategy and idiosyncratic risk. Additionally, the methodology may have included a review of policy responses and investment strategies implemented by organizations such as the OECD in response to Covid-19.

The literature review examined how the COVID-19 pandemic has affected investment behavior and idiosyncratic risk. It looks at various studies on the subject including Nimbalkar (2022), Kiruba and Vasantha (2021), OECD (2022), Riyazahmed (2021) which suggest that the COVID-19 epidemic has significantly changed the way that ordinary investors spend and make investments, leading to decreased spending, increased savings, and a shift towards safer investment options. Factors such as age, income, and level of education are also found to be influencing the investment behavior of retail investors during this period.

It also includes studies by OECD (2020), OECD (2020), Sanchez (2022) and OECD (2020) which highlights the need for policymakers to take a proactive approach to promoting and attracting investment during times of crisis and the importance of investment screening in identifying and mitigating potential risks during times of crisis and the need for effective screening mechanisms to be in place, while also providing an overview of the key concepts and theories related to foreign direct investment and its role in economic development, and the importance of understanding the behavior of institutional investors during times of crisis and the potential impact on market stability. The literature review provides a comprehensive summary of the current state of research on the impact of the COVID-19 pandemic on investment behavior and idiosyncratic risk, and highlights areas where further research is needed.

The literature review examines the impact of the COVID-19 pandemic on investment behaviour and idiosyncratic risk. The authors of the studies included in the literature review are Sanchez (2022), Salim et al. (2022), Phuong Lai Cao Mai (2021), Rajput and Sufiya (2022), Bhama (2022), Adebayo (2020), Patibandla (2020), Dodds (2017), Plasmans (1975), Cicchiello and Kazemikhasragh (2022), Thiyagarajan and Durairaj (2022), Shaji and Uma (2022), Wang et al. (2021), and Bouhlal and Sedra (2022). The studies examine the impact of the pandemic on investment behaviour, markets, and industries, and the need for governments and policy makers to adapt to the new reality. They also highlight the importance of understanding the investor's behaviour and its impact on the economy, and that factors such as age, income, and level of education will moderate how the epidemic has affected risk and investing behaviour.

**Conclusion:** In summary, the literature review found that the COVID-19 pandemic has had a significant impact on investment behaviour and risk. The increased volatility and uncertainty in financial markets has led to increased idiosyncratic risk and behavioural biases among investors, particularly in emerging economies. The review found that investors are now more risk-averse and are showing a preference for safer investment options, and that the pandemic has led to increased herding behaviour and overconfidence among investors. The conclusion highlights the need for investors to be aware of these risks and biases and to adopt appropriate investment strategies to mitigate them. Additionally, further research is needed to fully understand the long-term impacts of the pandemic on investment behaviour and risk. The implication of the study is that policymakers, governments, and investors need to take a proactive approach to promoting and attracting investment during times of crisis, and to ensure that investment screening mechanisms are in place to identify and mitigate potential risks.

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## **CHAPTER 02**

# **IMPACT OF COVID-19 ON B2B SALES**

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### **BACKGROUND:**

Around 2019 Business to Business (B2B) sector was busy resolving issues like geo-political issues, arriving at a consensus among countries regarding international trade, China's global trade, Brexit etc. And then on 11th March 2020, WHO declared Covid-19 a global pandemic which forced lockdowns.

Response mechanisms of local governments, situations in affected geographies, ease of doing business and modularity in it have decided the impact of Covid on society in general, and B2B in particular.

B2B or Industrial Marketing consists of all those activities that are involved in the marketing of products or services to organizations which use these products or services in the production of consumer or industrial goods and services and to facilitate the operation of the enterprises.

B2B marketing involves four types of transactions:

- **Product Exchange:** For need satisfaction
- **Information Exchange:** During, pre & post-sale activities, creating goodwill
- **Financial Exchange:** Involving commercial terms & conditions to ensure a win-win situation.
- **Social Exchange:** To ensure cordial relationships and build trust
- **Covid-19** has impacted B2B exchanges, sales process & interactions.

## **Interactions:**

B2B Sales process is long, more complex, and involves multiple stakeholders. Due to the high involvement of these stakeholders, B2B sales rely heavily on face-to-face interactions like in-person meetings, and networking events like conferences & trade shows.

Covid-19 forced organizations to rethink the strategies they will apply to gain, maintain, and increase their customers. Covid has controlled the expenditure by marketing departments. They are also increasing their spending on online marketing activities to enable sales interactions and improve the marketing collaterals.

## **Behaviour during Covid:**

The organizations that worked with their suppliers, vendors and customers empathetically have built long-term relationships with the customers. They have displayed it in multiple ways like giving free delivery, being less stringent on the payment terms, and offering higher discounts. They have worked on aspects like simplifying things, sharing as much information as possible, and going that extra mile to serve customers.

As people were already grappling with the pandemic, those organizations that are willing to go the extra mile by making things easier for their suppliers, vendors & customers have gone long in forming long-term relationships.

## **Hybrid Marketing:**

Now in-house marketing is leading across organizations, but outsourced marketing is on the rise. This is used to generate leads, enhance brand value, drive sales and launch new products. The majority of organisations are now using hybrid mode with a combination of in-house marketing add outsourced marketing.

## **Digital Business:**

The major objectives post Covid are lead generation, conversion and retention, revenue, improvement in website traffic etc.

SEO, SEM, and paid social media advertising are being increasingly used to generate leads and highlight organizational culture. B2B marketers are relying more on LinkedIn, Facebook, and Twitter.

Whenever B2B organizations want to show the lighter or cultural side of their organizations, they are using Instagram. And while showcasing videos for the product, process etc. they are relying on YouTube. Organizations are also showing 'in-use'. products or services by reputed clients to gain new clients.

Organizations are now expected to spend more on new technologies like automation, artificial intelligence, virtual reality, video marketing, content marketing, and influencer marketing as post-Covid B2B e-commerce is also set to rise exponentially.

Nowadays B2B marketers are using live chats, and mobile apps to connect quickly with buyers. Value-added services for delivery at the client's desired place, automatic refilling of the stocks, online training, guided video tutorials regarding products etc. are being used.

Now organizations should focus on client retention & relationship building, participating in in-person activities like exhibitions, conferences, and sponsored events.

### **Learnings for B2B marketers from the pandemic:**

- **Remote selling:** Before Covid, meeting customers in person demonstrated the capabilities of organisations, and products and hence travelling to customers' locations was a must for B2B activity. The pandemic has shown that travel and in-person meetings can be reduced and still ensure sales. It leads to saving resources like time, and money and shortens the purchase cycle.
- **Reaching out to clients:** Pandemic has also helped organizations to reach out to their databases and contact cold leads, potential customers, lost customers, and competitors' customers and convert them into clients.
- **Virtual sales:** Pandemic created fear in the minds of people and raised their safety concerns. This led to online shopping by clients. The movement restrictions due to the lockdown had forced organizations to adopt virtual selling. These virtual selling methods were quickly adopted by the B2B segment due to ease of doing online business, improved speed to serve customers, and saving the resources.

### **CURRENT SITUATION:**

Governments are putting restrictions on imports from China due to its role in Covid-19. Other manufacturing hubs like India, Taiwan, Mexico, and Vietnam are coming up. This will lead to increased manufacturing and exports from India.

As start-ups are challenging existing organizations, the overall pace of innovation will improve leading to better, cost-effective products.

Interactions between suppliers & customers are increasingly moving towards online or hybrid. Businesses are creating engaging digital content for their customers and backing it with testimonials, credentials etc. Now B2B Marketers are moving towards AI & Automation and also started to maximize the usage of content marketing.

Organizations providing detailed catalogues/user manuals, and sharing their best business practices will win over many potential clients and retain them in long run.

Non-strategic buying like office supplies and travel services are moving online with the availability of multiple platforms. Face-to-face interactions are getting minimized or avoided in such purchases.

During Covid, organizations cut the spending and are hesitant towards big investments. This will improve soon.

### **B2B Buying process:**

Due to savings of resources and from a safety perspective, more and more B2B organizations are moving towards online transactions. Organizations have shifted to online sales considering the lower cost of reaching out to customers, reaching to maximize customers and improvement in sales effectiveness.

Organizations should now focus on delivering with accuracy & speed, integrating different e-commerce channels, making the website experience easy, informative, and fruitful for customers, and offering human touch whenever it's useful and as desired by customers.

### **Digitization:**

Forward-thinking and fast-acting B2B organizations have moved to adopt digital technologies using e-Commerce, online presence & websites as frontline salespeople, facilitating online sales by making them quick, responsive, and interactive.

Email, Video calls, Live chat, zoom meetings, skype calls etc. have taken over in-person sales calls.

### **Role of Salesperson:**

As Covid-19 is moving towards endemic, the focus should be towards inclusive & sustainable growth. B2B organizations should work on forging collaborative partnerships in the new normal. They should offer maximum information to clients for decision-making and guiding customers through different digital touch points.

### **FUTURE SCENARIO:**

Face to Face meeting:

Currently, these are moving online. Buyers prefer these mainly for the first purchase and then move to online platforms like skype, zoom etc. for repeat purchases.

Covid has also highlighted the importance of marketing over sales as pre-covid it was more shifting towards sales.

As trust is building back in B2B business, its importance is increased due to online interactions and B2B salespersons need to ensure it more than ever.

Rapid digital transformation:

Covid forced businesses to go digital and organizations need to sustain this transformation even post-covid. This will also lead to fewer requirements of B2B salespersons and will increase contractual employment. B2B marketers must demonstrate flexibility & agility to survive in B2B careers.

Organizations should think about their prospect's customers and predict the urgency of buying by the prospect.

During the pandemic, all deals were scrutinized thoroughly from the financial point of view. The decision-making unit or buying centre comprised a greater number of people than usual. So it will help to pitch as if you are pitching to clients' finance/ capex team in terms of ROI.

To survive and grow in a post-covid world, B2B businesses must display these:

- Reaching out to customers creatively
- Accelerated adoption & sustenance of digital technologies
- Empathy with customers
- Agility & flexibility in organization
- Agile & Versatile team

### IMPACT ON B2B SALESPERSONS:

As salespersons are critical stakeholders in B2B marketing, the sales team needs to be provided renewed support & guidance to work with the new normal. Considering the increasing number of online transactions, managers should ensure this through new ways of behavioural aspects, performance management, and goal setting. B2B salespersons should be provided with recent information based on customers' online behaviour and presence.

Even though client engagement and business processes have changed significantly, the key elements of B2B sales remain the same. In the current situation, sales organizations should adopt a consultative sales approach to build and maintain relationships.

As digital interactions are becoming normal, conventional front-line salespeople are working to retain customers. Considering this agility, many organisations are offering their staff the flexibility to work in hybrid mode.

Since B2B sales involve many cross-functional stakeholders, buying & selling organizations should create cross-functional agile teams.

The current B2B digital sales process presents opportunities like improvement in client reach, increasing sales productivity, and lowering costs and challenges like employee motivation and burn-out. Organizations must work to balance these to create, maintain and improve competitive edge.

## **CHAPTER 03**

# **BRIDGING SKILL GAPS : A STUDY ON EDUCATIONAL REFORMS FOR EMPLOYMENT**

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### **Abstract**

The purpose of this review paper is to analyze the skill gaps introduced by a technological shift introduced by rapid automation due to covid. The World Bank human capital index 2018 ranks India 115 out of 157 Nations. There is an urgent need to improve skills in the Indian context or the large population of youth could be underemployed. Though recent studies indicate the need for inculcating skill-based and competency-based education, not much research seems to have been done on the methods by which it could be introduced at universities. This review paper aims to bring out the urgent need for universities to develop 21st century skills in the learner to acquire the right employment.

Key words (Skillgap, employability, youth and underemployment)

### **Introduction**

The rapid developments in Technology namely the shift to online due to the impact of Covid require that higher education be revamped in response to the changing job and skill requirements, namely from a knowledge-based system to application and skill-based systems. Recent trends indicate that the shelf life of skill and knowledge is shorter. There has been a lot of research on the current trends in the workforce and skill gaps and the need for institutions to implement a more skill-based education. However, limited literature is available on how learning environments and classroom strategies can develop skills along with domain knowledge.

Review of literature.

A growing body of evidence indicates a mismatch between the workforce's skills and the employer's requirements. Academic research suggests that these skill mismatches are partly the result of rapidly emerging technologies and industry 4.0 revolutions. Industry 4.0 is creating new jobs for the people who are innovating and upskilling while disrupting existing low-skilled jobs. Digital automation has transformed all aspects of our daily lives, namely the way we work and the way we conduct our lives. This era of smart and intelligent machines enables faster and more precise execution of work. The typical examples of these developments are the automatic systems used in farming, the automatic teller machines, and the robotic arm used by surgeons. These machines and the more recent smart cities will eventually replace much manual and low-skilled labour to make life convenient and hassle-free. These machines have evolved over the last decade and are different from their previous inventions since they are all programmed with intelligence embedded in them. The introduction of new technologies increases the demand for highly skilled labour and reduces the need for lower-skilled labor.

Awadhya and Kanjilal (2019) strongly emphasised the need for Indian universities to offer customised skills, and this was mentioned years ago by Calonge and Shah (2016: the need for the curriculum to be set in order to equip the learners to have workforce readiness). The expectations from the employers indicate that well-developed skills are required, along with a sound academic background. Yorke (2006) and the current situation of remote working and smart automation demand more skills than ever before. Though government agencies and policies are in place, research findings by Wheebox (2020) indicate a wide disparity in the expectations of the industry and the education offered by the universities. Most employers prefer job-specific skill training to compensate for the lack of skill education in universities; this incurs a loss for the industries. The importance of well-developed 21st-century skills in the learner will enable them to be critical

thinkers and innovators who can navigate an agile and dynamic work environment. According to the India Survey report for 2022, creativity and social intelligence are likely to be the most sought-after skills. These skills give the human mind a clear distinction from the machines that are rapidly replacing low- and medium-skilled labor. The India Skills Report 2022 clearly indicates the lack of guidance from educational institutions in imparting a more holistic skill-based approach to higher education.

The 2018 World Bank Human Capital Index ranks India at 115 out of 157 nations. There is an urgent need to improve skills in the Indian context, or else the large population of youth could be underemployed. Though recent studies indicate the need for inculcating skill-based and competency-based education, not much research seems to have been done on the methods by which it could be introduced at universities. This research aims to shed light on strategies for imparting skills along with domain knowledge and an assessment system to indicate the progress of the skill metrics.

According to Rosen (2018), prospective college students' motivation is increased when they feel secure in their ability to apply what they have learned in the workplace. Unemployed people with more education are more likely to find work, earn the same or more than they did before they lost their job, and find work faster. When one member of the workforce is out of work, it may have a domino effect on the rest of the family and the economy as a whole.

Employers, teachers, legislators, and training groups all across the globe agree that closing the skills gap is crucial. Increased access and completion, as well as adaptation to changing job markets, may assist the nation in addressing the skills gap and positioning higher education institutions for success in the economy of the future.

Recent studies by Thomas Malone et al. (2020) prove that we are many decades away from the day when computers have complete human-like intelligence, and therefore there is a lesser possibility of machines replacing humans. From the above observations, it is evident that new advancements will require agile and advanced skills to cope with these fast and smart machines. The predicted economic expansion of any country is attained when skilled professionals utilise technology as a tool. A skill shortage can hinder the ability to adapt and work with new technology, thereby slowing economic progress. The importance of the right skills for the future Jessica Li and Ann M (2017) convincingly argue that to optimise the changes, education and training must be in tune with the evolving demands of the workplace. The primary objective of higher education should be to enhance core skills, and the traditional method of knowledge sharing in the work force should be reinstated by the World Economic Forum's forecast for 2022. The overall employability skills of most graduates do not match the industry requirements. These trends have made government agencies and policymakers implement theories like competency-based education, which could be viable solutions to improving employability.

### Conclusions

The survey of the literature indicates that, though suggestions are given to improve skills, not much data is available on the methods by which skills can be imparted. There is abundant evidence that skill is not measured and quantified as a metric in any mark sheet.

Most students do not focus on skills as they cannot be quantified to show progress over the study period. Many countries are facing "invisible underemployment," which refers to a situation where an individual is unable to find a job in line with their educational qualifications and secures a pay much below the expected industry standard. The current lockdown due to COVID and the technological shift have further exacerbated this issue. Therefore, it is important that 20th century educational practises be revamped for the 21st century digital learner.

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## **CHAPTER 04**

# **HOSPITALITY INDUSTRY IN THE GRIP OF THE PANDEMIC**

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### **Abstract:**

The sudden emergence of the covid 19 pandemic put the whole world in a state of frenzy. With no prior notice, the world economies crashed overnight and all the functioning sectors of the economy had to immediately shut down their operations. The Hospitality industry was no exception to the occurrence and was the first section to go down. This article with the aid of secondary sources of data highlights the consequences this industry had to face on account of the spread of this deadly virus which plummeted the growth of this industry at an accelerating speed.

### Introduction:

“COVID-19”, the worst-seen pandemic hit the economies across the globe like a comet devastating the planet. The entire global structure was devastated and shattered out of the blue. The first wave of the pandemic that hit the world started in December 2019 in Wuhan, China leading to the emergence of a terrifying disaster that was declared a global pandemic by the World Health Organization (WHO) on 11 March 2020. This novel coronavirus has spread to more than 180 countries, including China, with a tenfold increase in the cases going from 1 lakh to 1 million in less than a month during the first wave [1].

This pandemic has not only affected the tangible losses of the human population but also includes the intangible losses in terms of economic, social, psychological, and structural aspects and even though measures were put in place to mitigate the infections, the major financial drop in the economy will have a cascading effect on the long-term approach.

The most affected sector has undoubtedly been the Hospitality sector. The Hospitality Industry was the most promising sector to grow by leaps and bounds, but the pandemic’s emergence and the restrictions put in place to combat that proved to be an abrupt halt to its broadening space.

### Aim and Objective:

The pandemic has hit hard the economies all over the world with no one sheltered from this global pandemic. Even though governments around the globe have acted with diligence in restraining the pandemic, the losses faced by the Hospitality industry were taxing. This article tries to understand the impact of the pandemic and the aggravating losses faced and shouldered by this industry in the wake of covid 19.

### Research Methodology:

This article majorly draws its findings from secondary sources with the main focus of secondary sources being published articles, research papers, national and internal journals, Government reports, websites, new articles, etc.

### Literature Review:

As per the study conducted on the EAC to assess the impact of the pandemic, it was witnessed that there was a loss of US\$ 4.8 billion in tourist arrivals and the occupancy rate shrunk by 30% [2]. Apart from that, the behavior of the customers has taken a turn for the worse as the atmosphere of fear prevailed where in normal settings highly clustered hotels were on the list of the customers but with the pandemic setting in the preference shifted to low clustered hotels owing to safety and health reasons [3].

### Discussions and Analysis:

The Hospitality sector has been the most efficient key contributor to the economies around the globe. As such the sudden appearance of the pandemic was a huge setback to the sector. Initially, all international travel was immediately ceased and the countries sealed off their boundaries. This led to a huge economic loss in the form of flight cancellations postponed air travel and partial and complete shutdown of the travel section. A very limited movement was allowed as far the inbound travel was concerned pertaining to the restrictions imposed by the governments. As such the tourism industry pulled to a complete halt in operations cascading the impact to the Hospitality industry. The Hospitality industry suffered on account of occupancy rate wherein the Asian Countries the rate declined by an average of 57.70% which accounted for a loss of employment for about 63.4 million workforces [4].

The restricted travel accounted for immense booking cancellations, postponement of cultural, wedding events, conferences, and sports tours for an indefinite span of time. The governments-imposed restrictions in the form of lockdowns, social distancing, stay-at-home orders, and movement bans which made it all the more difficult for the hospitality section to thrive. This resulted in the partial or in certain cases complete shutter downs of hotels and restaurants. The regulations demanded this sector to limit its operations to a bare minimum ensuring just the survival of this niche. Travel bans and lockdowns accounted for the reduced occupancy rates and a declined RevPar resulting in a steep downfall of income to offset the operational cost of keeping the business afloat [5]. Apart from that studies also institutionalize the notion that the fear of the pandemic establishes the indirect relationship of phobia of the economic issue on psychological wellbeing. Contingent job insecurity aggravates the stress related to the financial crisis, unemployment, and low standard of living, and induces mental trauma [6].

### Conclusion:

The Hospitality sector was the first sector to be shut down with no prior notice. As such tremendous losses in terms of revenue, operational and functional expense, social, economic, and psychological, shutdown of hotel chains altogether has put the industry in a bad spot for just survival. Governments need to drop in to aid this industry with supportive packages which could help the industry revive, get back on track, implement certain changes to adapt to the changed dynamics of the market and turn the graph uphill. The industry stakeholders can see this as an opportunity to reinvent and restructure the industry dynamics with an open forum and focus on innovation.

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## **CHAPTER 05**

# **IMPACT OF COVID ON CASHLESS TRANSACTIONS IN SRIRANGAM, TIRUCHIRAPPALLI, TAMILNADU STATE**

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### **Abstract**

The cashless economy in India has been encouraged by the Indian Government's "Digital India" program. This is a flagship initiative to modernize India into a digitalized society and knowledge economy. "Faceless, Paperless, Cashless" is one part of the function of Digital India. A cashless transaction is a digitized or automated transaction between two people, businesses, or organizations. There is no dearth of the form of Cashless transaction available. Indeed we find proliferated cashless modes available in India. Moreover the twin major happenings that occurred in India and worldwide viz., Demonetization and Covid –19 have added fuel to the enormous use of Cashless transactions. In this context the present research paper aims to achieve the following objectives;

- To analyze the trend in digital transaction in India from the year 2017 – 2018 to 2021 – 2022.
- To trace the mode and purpose of Cashless transactions in Srirangam
- To analyze the impact of Covid on Cashless transactions in Srirangam
- To portray the level of satisfaction of the respondents about different modes of Cashless transactions.

**Keywords:** Cashless transaction, Covid – 19, Digital India, Demonetisation.

## Introduction

The cashless economy in India has been encouraged by the Indian Government's "Digital India" program. This is a flagship initiative to modernize India into a digitalized society and knowledge economy. "Faceless, Paperless, Cashless" is one part of the function of Digital India. A cashless transaction is a digitized or automated transaction between two people, businesses, or organizations. The Demonetization initiative of the Government of India and the worldwide Covid-19 pandemic have encouraged the move to digital payments and improved the rate of digital channel growth. Before the emergence of Covid -19, the practice of making a transaction using mobile payment applications was getting popular in India. After the Coronavirus pandemic, this tendency increased as customers started to move to digital transactions. Perhaps India ranks first in the use of different forms of digital modes of payments.

## Review of related Literature

Ilan Kumaran, G. and Darling Selvi, V. (2019) in their article on, "Customer Purview of Cashless Payment System in the Digital Economy of India" highlighted the rise of India's digital payment infrastructure and the complications the sample respondents experienced with the use of digital payment services. The study has found that, while the sample respondents use digital payment systems in different structures and for numerous purposes, they also face infrastructural, awareness, and operating challenges.

Aparna, H. et al. (2019), "A Study on the Digital Wallet Usage among Citizens of Kochi using FP-Growth Algorithm". Through their analysis, they determined that Kochi inhabitants mostly use their app for movie bookings, train, bus, and taxi booking, and smartphone recharging. The results have also been evaluated based on gender. Both governments and private corporations can use this information to develop a popular app that will increase the number of cashless transactions in our nation.

Pankaj zala. et al. (2022) , "Consumer Perception towards Digital Payment Mode in India". This research aims to find out the awareness level of the people towards digital payment system and to examine the degree of safety in digital payments. The researchers found that majority of the public (80%) felt that convenience is the reason for cashless payment and 81% felt that poor internet connectivity is the obstacle for cashless transactions.

## Statement of the Problem

Covid-19 has created a severe impact on the life of human beings. It has affected different aspects of the life of all. The impact has been felt in day-to-day commercial transactions. That is everyone was afraid of touching currencies and at one stage all are forced to do the online transaction through the available online modes that too are familiar to them. Hence the present study entitled "Impact of Covid-19 on Cashless Transaction in Srirangam" is undertaken to study the Covid-19 impact on the mode of effecting online transactions in Srirangam.

## Objectives of the Study

- To analyze the trend in digital transaction in India from the year 2017 – 2018 to 2021 – 2022.
- To trace the mode and purpose of Cashless transactions in Srirangam
- To analyze the impact of Covid-19 on Cashless Transaction in Srirangam
- To portray the level of satisfaction of the respondents about different modes of Cashless transactions.

## Research Methodology

Both primary and secondary data are used for this study. 120 respondents were selected by using convenience sample method to gather the data. A structured questionnaire is used to collect the primary data. The collected data have been analyzed using the appropriate tables and percentages.

## Data Analysis and Results

According to the report of RBI, Digital transactions have increased from 2071 Crores in the FY 2017 – 2018 to 8193 Crores in the FY 2021 – 2022 (till 20th march 2022).

**Table 1**

**Year-wise total number of digital transactions undertaken from 2017 – 2018 to 2021 – 2022**

Financial Year (FY)	Digital Transactions Volume (In Crore)	Digital Transactions Volume (In Lakh Crore)
2017-18	2071	1962
2018-19	3134	2482
2019-20	4572	2953
2020-21	5554	3000
2021-22 (till 20 <sup>th</sup> March 2022)	8193	3021

Source: RBI

**Table 2**

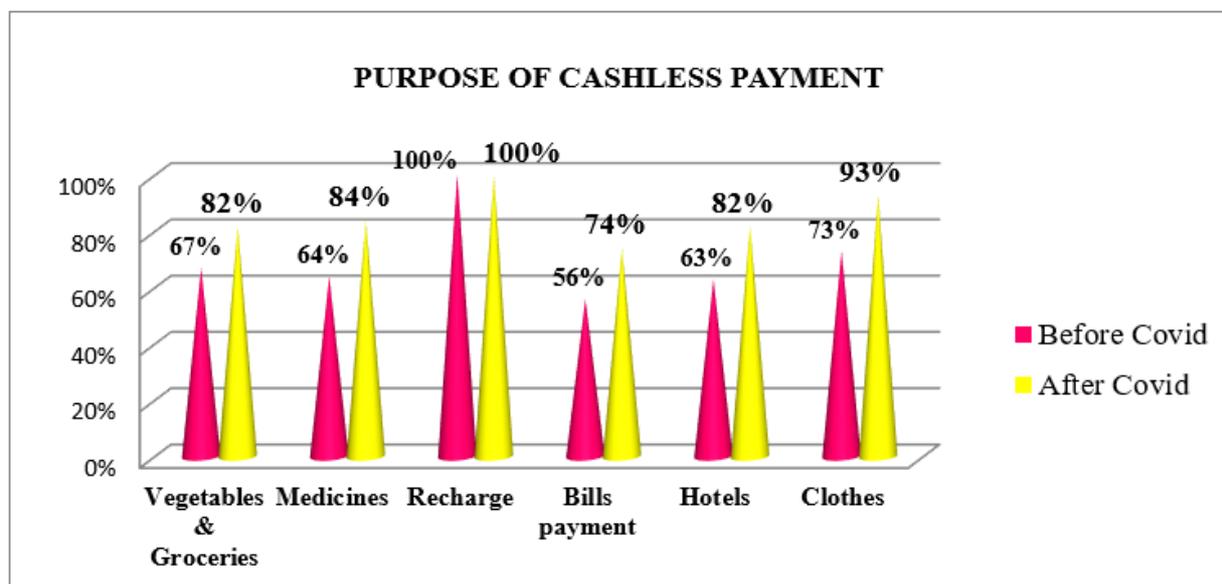
**Purpose of Cashless Payments**

Products	Before Covid	Percentage to Total Respondents	After Covid	Percentage to Total Respondents	Percent of increase
Vegetables & Groceries	80	67	98	82	15
Medicines	77	64	101	84	20
Recharge	120	100	120	100	-
Bills payment	67	56	89	74	18
Hotels	76	63	99	82	19
Clothes	88	73	112	93	20

Source: Primary Data

Table 2 shows that, 100 percent of the respondents have used cashless payment to recharge mobile phones and DTH before and after. 73 percent of the respondents have used it to purchase clothes before Covid and 93 percent of the respondents have used it to purchase clothes after Covid. Hence it inferred that the majority of the respondents have used cashless payment systems for recharge and to purchase clothes. After covid the use of digital mode has increased irrespective of the purpose.

**Chart 1**



**Table 3**

**Mode of Cashless Payment Used By the Respondents**

Mode of Cashless Payment	No of Respondents
Mobile Payment	107
Wallet Payment	77
Card Payment	92
Internet Banking	73
EFT	43

Source: Primary Data

Out of 120 sample respondents, 107 respondents are using mobile payment, 92 respondents conveyed that they are using card payment, 77 respondents are using wallet payment, 73 sample respondents are using internet banking and 43 respondents are using EFT. Hence, it is inferred that the majority of the sample respondents preferred mobile payment for their transactions.

**Table 4**  
**Before and After Covid Usage of Cashless Transaction**

Use of Cashless Transaction	Before Covid		After Covid	
	No of Respondents	Percent	No of Respondents	Percent
Yes	92	77	120	100
No	28	23	-	-
<b>Total</b>	<b>120</b>	<b>100</b>	<b>120</b>	<b>100</b>

Source: Primary Data

Table 4 portrays that before and after Covid usage of cashless transactions. 77 percent of the respondents used cashless transactions and 23 percent of the respondents stated that they have not used cashless transactions before Covid. All 120 respondents have initiated to use the cashless payment system for their transactions after Covid.

**Table 5**  
**Level of Satisfaction of the Respondents about the Modes of Cashless Payment**

Modes of Cashless Payment	Highly satisfactory	Satisfactory	Moderate	Unsatisfactory	Total
Mobile Payment	65 (61%)	33 (31%)	5 (4%)	4 (4%)	107 (100%)
Wallet Payment	48 (62%)	19 (25%)	7 (9%)	3 (4%)	77 (100%)
Card Payment	51 (56%)	26 (28%)	10 (11%)	5 (5%)	92 (100%)
Internet Banking	42 (58%)	22 (30%)	9 (12%)	0 (0%)	73 (100%)
EFT	11 (26%)	13 (30%)	10 (23%)	9 (21%)	43 (100%)

Source: Primary Data

Table 5 reveals the satisfaction level of the respondents towards modes of cashless payment. Out of 170 respondents, majority 61 percent of the respondents stated that they are highly satisfied with the mobile payment. Out of 92 respondents, 56 percent of the respondents are highly satisfied with the card payment. Out of 77 respondents, 62 percent of the respondents agree that they are highly satisfied with the wallet payment. Out of 73 respondents, 58 percent of the respondents are highly satisfied with internet banking. Out of 43 respondents, 30 percent of the respondents opine that they are satisfied with the EFT. Hence, it is proved that the majority of the respondents are highly satisfied with mobile payments, card payments, and wallet payments.

### **Findings**

- 77% of the respondents used cashless transactions before Covid and 23 percent of the respondents stated that they have not used cashless transactions before Covid.
- Majority of 89% of respondents are using mobile payment for their transaction.
- 77% of the respondents conveyed that they are using card payment.
- Majority 61% of the respondents assured that they are highly satisfied with the mobile payment.
- 51% of the respondents are highly satisfied with the card payment.
- 100% of the respondents have used cashless payment to recharge before and after Covid.
- 73% of the respondents have made cashless payment to purchase clothes before Covid.

### **Suggestions**

- Ø It is suggested to use one's own mobile device or computer while making online payment.
- Ø Mobile payment mode is the most preferred cashless transaction mode by the respondents of Srirangam. So the mobile payment companies should concentrate more on the extension of advanced security features which will give more reliability to the customers.
- Ø There is a word of caution for all online shoppers -Before effecting online transaction prefer to use a credit card and not a debit card.

### **Conclusion**

Cashless transaction is very convenient. With digitalization of Indian economy and the move to turn India into Cashless society, Cashless transaction is going to be the way of life. The result of this study shows that Cashless transactions have a positive impact on customers. From the research study it is concluded that Covid – 19 has increased the volume of online transactions through different modes that are convenient to the user and in future cashless transaction will rule the commercial world.

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## **CHAPTER 06**

### **STRUGGLE OF THE INDIAN ECONOMY DURING COVID 19**

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Abstract:

COVID-19 cases in India cross 4.47 crore crossing more than 53.1 lakhs deaths worldwide and more than 5.31 lakhs deaths in India. More than 200 countries are declared with novel coronavirus pandemic. In this article, the researchers have tried to explain the impact of COVID-19 on the Indian Economy with its measures on basis of the three-sector model of the Economy. The service sector seems to be affected heavily by the pandemic, as the aviation, hotel industry and financial system of our country come under destroyed demand. Different measures are considered by our government, finance ministry and RBI to decrease the effect.

Keywords: Manufacturing units, lockdown, economy, covid-19, pandemic

### Introduction:

By March 11, 2020, when the WHO declared COVID-19 as a pandemic, its impact was being felt over the globe, by the 7.8 billion humans living on the earth. Soon, Information came of the emergence of the Delta variant and it was declared more infectious and with more chances of transmission. After a few months, the Mumbai civic body confirmed that the genome sequencing of 211 COVID-19 samples has cleared that two people possess the new Omicron variant, around 89 per cent possess the Delta derivative and 11 per cent the Delta variant.

**The Three-Sector Model of the Economy:** The model was developed by Allan Fisher, Colin Clark and Jean Fourastie. This model divides economies into 3 sectors of activity: Primary Sector: extraction of raw materials, Secondary Sector: producing and Tertiary Sector: services.

### Objective of the study

·To analyse the effect of the pandemic on the Indian Economy and how different sectors survived the Pandemic

### Research methodology

This is a review paper based on secondary data. Data has been collected through various research papers and articles from different journals, magazines and newspapers related to the performance of GDP and the other economic condition and survival of the Indian Economy during the pandemic.

### Impact and Measures: Primary Sector

The Rabi harvest, a substantial portion of the national farm turnout was managed. In line with economists, it was a challenge for India to move this food from villages to cities in the middle of the lockdown. In the initial few days of the lockdown, shoppers resorted to panic shopping for necessities like flour, rice, sugar and oil. Costs of sugar rose in cities wherever supply was restricted and fell in alternative places due to over-supply. Gradually, with supply restrictions, markets fell short of supplies and also the costs of those commodities were exaggerated. However, the farmer costs of fruit, vegetables, milk, meat and poultry in India have crashed owing to lower demand. Costs in cities rose owing to fraudulency and in rural areas, they decreased as a result of farmers were not be ready to sell their crop,"Measures involved doorstep wheat acquisition, assisted curfew passes for farmers, labourers and machinery suppliers, also as plans for overlapped entry permits for farmers to native mandis. Other facilities provided to the primary sector include: New marketplaces created in open areas accessible with rice mills, cotton factories, and panchayat land in villages, Haryana has added 1,800 wheat-collection centres, Punjab has over 3,000 wheat assortment centres, Punjab sets harvest hours at 6 a.m. to 7 p.m., Both Punjab and Haryana claim they were able to stay migrant labour for harvest by making new facilities, Punjab created over 162 shelter camps, Haryana created over 467 shelter camps. Due to operational problems during the lockdown tea estates weren't ready to harvest the primary flush. The entire Darjeeling tea business can have an important fall in earnings. Tea exports faded to 8% as a result.

Impact and Measures: Secondary Sector:

**Manufacturing:** Leading Industries in India such as Larsen and Toubro, India Forge, Ultra Tech Cement, Grasim Industries, the fashion and retail wing of Aditya Birla group, Tata Motors and Thermax dropped their activities quickly. Concerning all two-wheeler and four-wheelers, corporations had placed a halt on production. Hindustan Unilever, ITC and Dabur India additionally closed their production facilities. **Pharmaceuticals Industry:** The prices of raw materials imported from china has been risen due to the pandemic. Most affected are the common drugs as import was affected due to hindrance in the supply chain and workforce shortage. Simultaneously, the pharmaceutical industry struggled because of the government-imposed bans on the export of critical drugs, equipment, and PPE kits to ensure sufficient quantities for the country. The higher requirement of generic drugs with transport restrictions worsens the condition. **Textile:** Textile exports were affected for a few quarters. Artificial fibre imports from China are priced a lot and increased the costs of the ultimate product. A 10-12% dip in textile/ attire production was seen. Material production dipped as exports declined. **Automobiles:** There have been a 52% drop in overall car sales in March 2020 and a 47% drop in car sales in Maruti Suzuki. There was a production shutdown across the country. We can see a liquidity crunch due to problems in the NBFCs/ banking sector. Disruption in raw material supply from China and shortage of labour was also a big issue. In automotive parts and fertilizers, China's part in India's imports is more than 25%. There is a big drop likely in consumer vehicle purchases. Madan Sabnavis, chief economist at Care Ratings, attentions that in a worst-to-worst condition, this could even lead to food anarchism. Maruti Suzuki, formed cross-functional teams to plan and bring the process to work. These teams had daily meetings with MD & CEO Kenichi Ayukawa to go through the progress. R.C. Bhargava, chairman of Maruti Suzuki, says the government should implement measures to bring buyers back to the market, such as through tax cuts on products. Sabnavis says "An income tax abdication for individuals and corporates, with a cut in the Goods and Services Tax (GST) to encourage Rs 2 lakh crore should be advised, both central and state governments should increase the fiscal deficit limit up to 10 per cent. **Oil and Gas:** Demand for Transport fuel decreased due to the lockdown as industrial manufacturing curbed and passenger movement was also reduced. Tax incentives, power tariff cuts to production units and Petroleum, Chemical and Petrochemical Investment Regions, flexible working capital loans for small/ medium scale units, review import tariffs on essential feedstock for chemical firms, review free trade pacts and anti-dumping duties to protect downstream manufacturers are few measures suggested by industry experts. Though the crude prices dipped in this period, the government increased the excise and special excise duty to make up for the revenue loss, additionally, the road cess was raised too. **Real estate:** There has been a 42% dip in housing sales in Q1 2020-21.

There were 445 thousand of unsold homes as of Dec. 2019. (Knight Frank estimate)The supply of raw materials, including cement and steel, washed. There was a sharp fall in demand in the residential, hospitality and retail segments. Sales of Real estate in eight main cities of India fell by 66% in July-September 2020. MSME: The MSMEs get burdened by fixed costs without business, putting a lot of pressure on them. The increase in the threshold from ₹1 lakh to ₹1 crore to activate insolvency post-requisites under the Insolvency and Bankruptcy Code (IBC) will assist MSMEs. Gold: Despite this, in the past few weeks, gold prices have fallen by 10 per cent. Electronic Industry: On 21 March 2020, the Union Cabinet allowed incentives worth ₹40,995 crores (US\$5.7 billion) for electronic production.

Impact and Measures: Tertiary Sector

Telecom Sector: Impulse broadband consumption has increased the pressure on the network. Demand has increased by around 10%. Aviation and tourism: These two industries were facing critical cash flow problems since the inception of the pandemic with 38 million lay-offs, which means 70 per cent of the total workforce. According to one issue of the UNWTO World Tourism Barometer, international tourist arrivals (overnight visitors) declined 70% in January-August 2020. Now it has been around 1.67 lakh crore rupees loss for global tourism reason being widespread cancellations due to the ban for a limited period on domestic and international travel. The projected loss of Rs 8,200 crore is due to restricted foreign tourist arrivals (Indian Association of Tour Operators). According to IATA, passenger air transport revenue decreased 90% year-on-year in April 2020 and 75% in August. Education Sector: The closure of educational institutes affected roughly 600 million learners across the world (only school-going students). IT organizations are providing support for digitalization by the medium of Zoom MS team etc. software to teachers as well as students. Financial sector: Customer credit feature in affordable housing, two-wheeler financing and micro-financing is hit. Next to the Covid-19 pandemic, Fitch also quoted danger from the loss of Yes Bank. A few steps include regulatory support on asset classification, a forbearance period of up to nine months for stressed assets, making the resolution framework more practical to insulate businesses from defaults and insolvencies, Defer Prompt Corrective Action (PCA) for 12 months, One-time restructuring window for all types of businesses. Shipping Industry As per the information, per day per vessel has decreased by more than 75-80% in dry bulk trade. E-commerce: On 25 March 2020, Walmart's Flipkart stopped some of its assistance on its e-commerce podium for time being and only sold essential items. Big Basket and Grofers also performed limited activities.

Measures by Finance Ministry:

Finance Minister Nirmala Sitharaman declared Rs 1.76 lakh crore aid bundle on March 26. The World Bank and Asian Development Bank commended the aid to India to handle the coronavirus pandemic. On 18 April, to assist Indian companies during the pandemic, the government modified India's foreign direct investment policy.

On 12 May the Prime Minister announced an overall economic stimulus package worth ₹20 lakh crore (US\$270 billion). The Cabinet declared many proposals free of charge under the economic package including a free food grains package. On 12 October and 12 November, the government announced two more economic stimulus packages, bringing the total economic stimulus to ₹29.87 lakh crore (US\$400 billion). By December 2021 India was back to pre-COVID-19 growth. Measures for free food grains were announced once again under the PM Garib Kalyan Ann Yojana, similar to those in 2020. On 2 May, tax agreements were once again relaxed.

### RBI Measures:

On 27 March the Reserve Bank of India (RBI) Governor Shakti Kant declared to keep EMIs on hold for 90 days and to decrease repo rates. Including different aids provided total ₹374,000 crores (US\$52 billion) will be assisted to the country's economy. RBI decided to provide special refinance facilities for an amount of Rs 50,000 crores to the National Bank for Agriculture and Rural Development (NABARD), Small Industries Development Bank of India (SIDBI), and National Housing Bank (NHB) to help them in sectoral credit requirements.

It was also finalised to decrease the fixed reverse repo rate under the liquidity adjustment facility (LAF) by 25 basis points from 4 per cent to 3.75 per cent. Shakti Kant Das exuded hope citing International Monetary Fund's projection that India is expected to post a sharp turnaround and grow at 7.4 per cent in 2020-21.

### Conclusion:

**Primary Sector:** Government efforts were remarkable for the agriculture sector and the unorganized sector in form of different yojanas, free food supply and special facilities during the pandemic.

**Secondary Sector:** Few industries have incurred growth as the pharmaceutical industry, telecom Industry and E-commerce during this period. Except above industries, all others like MSME, Real Estate, Oil and Gas, chemical, petrochemical, automobile, textile etc. faced a crunch due to closure.

**Tertiary Sector:** Education, Aviation, Tourism, Finance and Telecom Sectors were affected the most out of all.

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## CHAPTER 07

# IMPACT OF COVID -19 ON RETAIL SECTOR WITH REFERENCE TO APPAREL INDUSTRY

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### Abstract

In marketing practices retail sector is experiencing expeditious business growth .Most of the population visit retail malls to meet their needs in comparison with small shops in the neighbourhood market. Increase in standard of living, change in needs of products and services, consumer preference of expending behaviour resulted in tremendous growth of retail business. In 2019 ,a highly contagious and infections disease affected 210 countries including India ,due to which many sectors will affected adversely and retail sector especially the apparel industry was one of them. Covid -19 left many challenges to retailers and most of the businesses collapsed due to lockdown in the country. This had an impact on Indian economy as apparel industry contributes to the major part in exports of India. However, there was also a noticeable decrease in employment and output in fashion business across all areas in India..

Keywords: Retail-sector, Apparel Industry, Contagious, Adversely and Indian economy.

### Introduction

For the past few decades, retail sector was in boom, specially a fashion business as the youngster's perceptions towards branded clothing and their performance in buying has changed. People were attracted to large spacing, display of branded casual and ethnic wear available at one place. Covid -19 pandemic and rigorous steps such as national lockdown has changed the entire scenario. India confronted dreadful consequences such as unemployment, hunger and poverty. Covid-19 has resulted in a composite effect on society including style of living eliminate and the economy as a whole. It is very difficult to believe that the devastating effects of pandemic can be ignored or disappear over a period of time. This reduced the confidence in employees of retail sector to pursue further plans in future (Mirza and Gupta, 2020). In India, apparel stores year end sale and clearance sales were affected to a large extent. There was a great fall in purchase order of customers up to 30% .This was due to fear of getting affected by the disease, reduction in income and panic of job security (Mirza and Gupta, 2020). The recent changes in the shopping habits of customers influenced them to purchase in retail malls but because of the regulations laid down due to lockdown forced them visit nearby shops rather than going to their preferred areas to buy the essentials. This has really reduced the brand image as the customers switched over to small retailers (Saha and Chouhan, 2020).

Covid-19 pandemic entirely disturbed the commercial transactions of retailers and as a result, they came across many confrontations in their day to day business. Due to this, volume of sales decreased which had an impact on the Indian economy. In many apparel stores weekend sales have been drastically reduced because of the inevitable restrictions imposed by government of India (Ghosh et al., 2020). Due to lockdown, many people lost their jobs and as there was no income caused in decline in consumption of necessities and their priorities too changed (Saha and Chouhan, 2020).

Apart from reduction in sales volume, retailers faced many operational challenges related to supply chain difficulties, decline in promotion of products. Especially, small business people found it difficult to provide delivery services to the costumers at home, electronic payment system and other procedures imposed by local officials. (Nicola et al ., 2020). In spite of all this, pandemic has given certain opportunities also to the retailers to find innovative way of doing business. Since India is a highly populated country, it was of highest priority to control worldwide pandemic through handling of natural calamities (Kushwaha et al., 2018). Customers stopped spending due to the decrease in income levels. The demand for essential and non essential products dropped to the maximum and the channels of distribution also got effected (Pallavi, 2022). The pandemic has affected the requirement not only for fashion business and apparel industry but also the supply chain (Kumar et al., 2021).

The Covid -19 crisis resulted in eruption of consequential hazards in managing supply chain (Ivanov, 2020). Due to the pandemic, the number of consumers in a retail store, reduced as the physical distancing constraints were imposed and even the public was more interested in saving rather than spending (Campbell, 2020; Elle, 2020).The apparel industry beyond its supply chain requires re-establishing and reconstructing towards a more justifiable and unyielding web (Khaled et al., 2021)

### Objectives

The objective of the present study include

- Ø To study the impact of Covid-19 on retail sector
- Ø To study the adverse effects of pandemic on apparel industry
- Ø To study about the layoffs in fashion business
- Ø To study the challenges faced by retail apparel industry.
- Ø To study the strategies adopted by apparel stores to retain the customer.

### Methodology

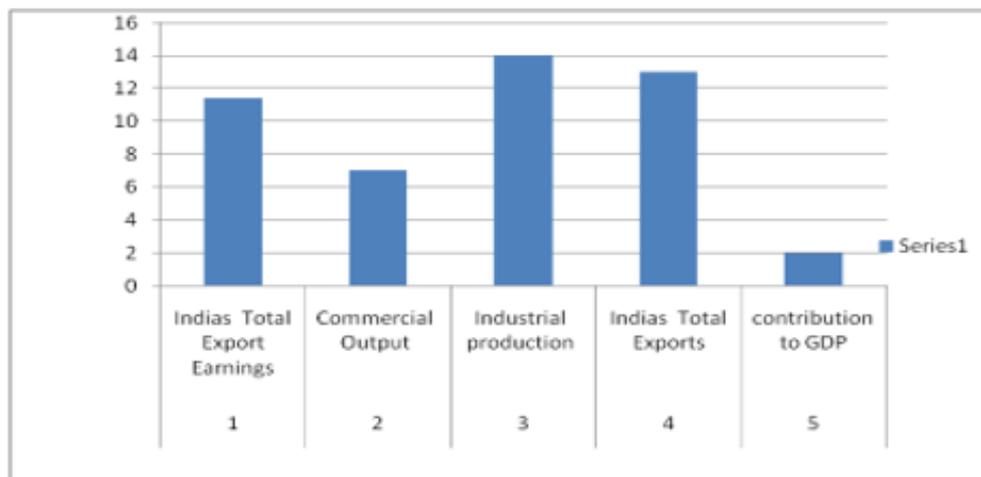
Research Methodology refers to the systematic study of a research problem through the data collected from various sources .For this study, the data was collected through structured interviews in branded apparel stores and local retailers. The secondary data was gathered from different journals, books and websites. The information is analyzed, evaluated and the conclusion was drawn from the information collected.

### Findings

Since most of the employees we working from home and it has become a regular practice, Max wear has introduced comfortable but formal wear including lounge wear, home wear and timeless 9-9 dressing as depicted in Table-1. Another brand, West side has offered semi formal shirts with added comfort as a part of formal wear. Their new collection included clothing with stripes, geometric patterns and block prints Biba, one of the most popular brands, has introduced kaftans and robes as latest styles. Comfortable casual wear such as lounge pants and loose dresses were introduced by Zara and H & M. Some of the local brands have released workout wear clothes for employees working from home.

**Table-1: Some of the branded apparel stores and local retailers have adopted certain measures for the growth of their business during covid-19 and post covid-19 pandemic**

Brand name	Type of clothing	New styles
Max wear	Casual style	Lounge wear & home wear Time less dressing (formal but comfortable wear to work from home)
West side	Formal wear Mood lifting brights	Some formal shirts with added comfort. New collection with stripes,geometric patterns and block prints.
BIBA	New styles	Kaftans and robes
ZARA and H&M	Casual wear	Comfort-wear such as lounge pants and loose dresses.
Local brands	Workout at home	Work out wear .



**Fig-1: Contribution of Apparel Industry to Indian Exports in 2018-19**

The Covid -19 e.

India's total export earnings were 11.4%, Commercial output 7%, Industrial production 14%, India's total exports 13% and Contribution to GDP comes to 2% related to Apparel Industry (Fig-1). Research says that by end of 2023, tremendous growth in the apparel exports is expected (Kanupriya, 2021). Due to lockdown in the country, Indian economy has been knocked hard as the transport facilities were decreased and the supply chain system was disturbed (Khaled et al., 2021; Arania et al., 2022). Since the factories and stores were temporarily closed most of the workers lost their jobs and the domestic market has witnessed a drastic fall. Most of Indian exports orders were cancelled and the inventory accumulated as the stores in domestic markets were also closed temporarily (Khurana, 2022). Opening of new stores was an impossible task and no scope for growth in the apparel business. This crisis has affected profitability of apparel industry including small retail stores and enormous malls (Arania et al., 2022). Since the apparel and textile industry is comprehensive. The Confederation of Indian Textiles Industry (CITI) has requested the Indian government to announce a financial support for the retail apparel sector to reduce the deficit. Consumers' attitude towards purchase of necessities was changed and designer clothes were not their priority. Latest lifestyles designs applied in the retail stores may attract the customers successfully. Many retailers of apparel stores would prefer to be merged with other stores to nourish themselves in continuing with their business.

### Conclusion

Covid -19 pandemic has transmitted aggressively all around the world generating a remarkable impression on the lives of people. It has influenced various age groups as well as customs of groups. The restrictions imposed due to lockdown such as stay at home, work from home, physical distancing and loss of jobs have raised anxiousness in the country. The total number of corona cases increased day to day and it was so unpredictable to return to the regular condition. Demand for apparels and branded clothes was reduced as consumers stopped shopping all over the country. The supply chain and logistics were seriously under difficult situations. Production related incentive programmes have been started by Government of India to reduce the losses of manufactures. Government also has initiated certain moves to extend support by improving the conditions in apparel industry due to the covid-19 pandemic as this industry suffered from many problems. The fashion business and apparel industry are the prime contributors to the Indian economy. The pandemic not only damaged the retail business and also the supply chain-system which resulted in unemployment too.

### Acknowledgements

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## CHAPTER 08

### IMPACT OF COVID-19 ON MARKETING

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#### Abstract

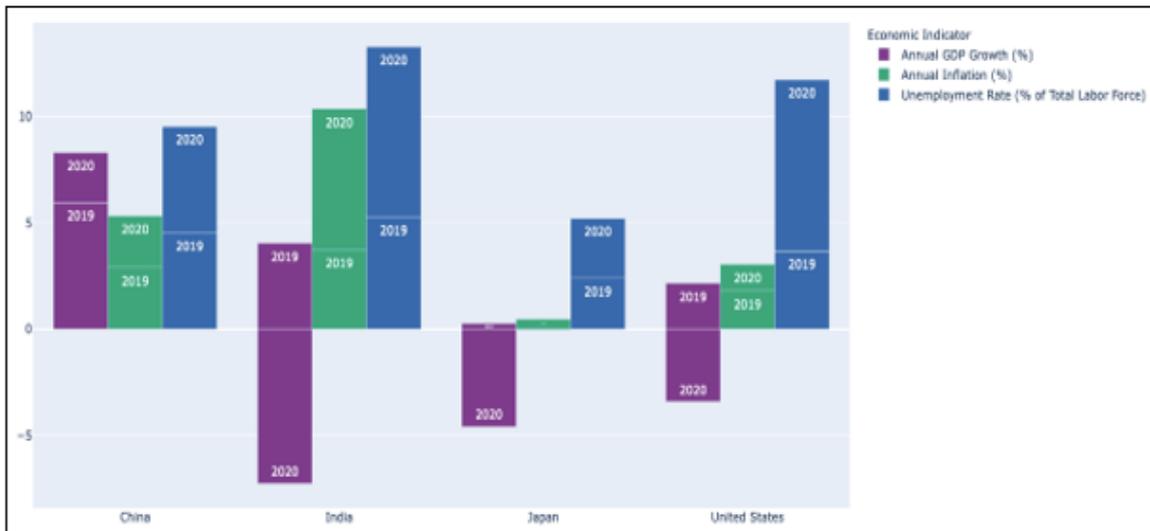
Recent outbreak of corona virus had affected the whole world to a larger extent as it was massive and rapid spread resulted in great destruction of Human life, Education, Trade and Commerce and also on other sectors. Although Lockdown was a small preventive step that helped to control the spread of this brutal disease to some extent, it had a greater impact on all the sectors. Covid-19 has changed the perception of different stakeholders of market in different ways. Marketers concentrated on building brand image for their products and maintaining consumer relationships, consumers preferences have changed, their purchasing power has decreased and they have to prioritize their wants as they could afford less due to seize of their employment. The availability of products in the market was zero. In order to survive in the market, Marketers had to struggle with various strategies. This paper focuses on how marketers followed the strategies to attract the consumers using technology and data related to consumers and shift of product centric to consumer centric, their preferences, buying behaviour, price and their economic status.

Key words: Market, Corona Virus, Consumers, Technology, Buying Behaviour, Marketing Strategies.

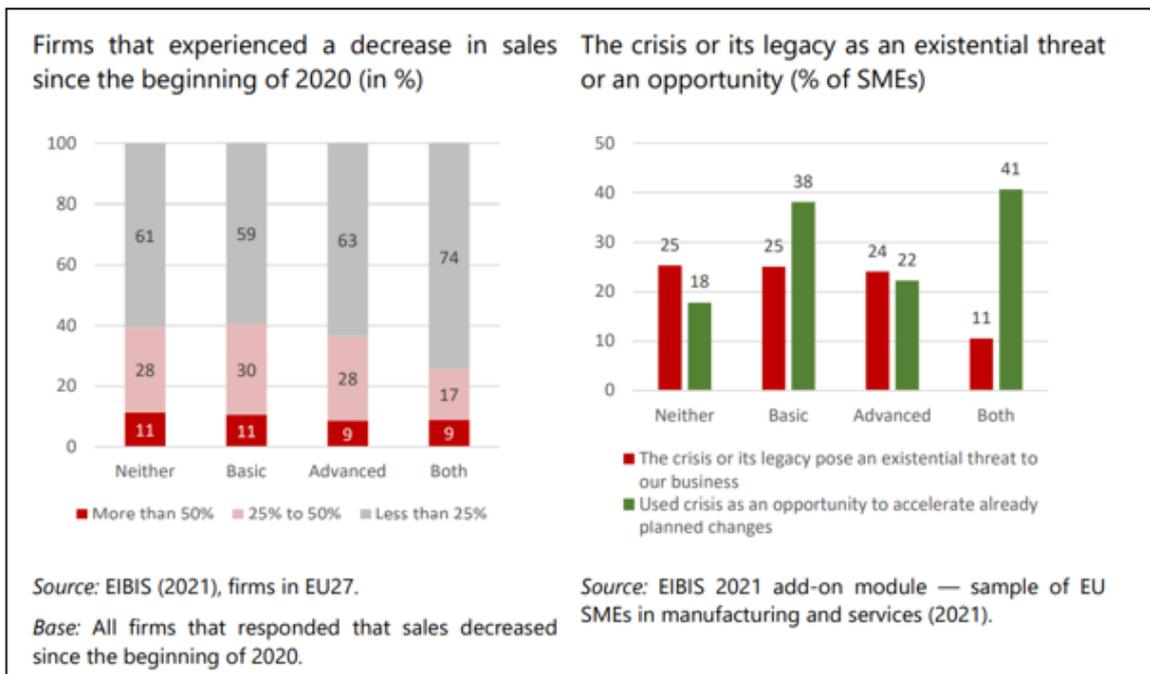
### Introduction

One of the most significant environmental concerns in the history of modern marketing is the covid-19 epidemic, which has the potential to have a significant impact on the foundational principles of marketing. Due to the global lockdown and implementation of social distancing laws, the short-term impact of COVID-19 was evident and obvious. Covid-19 has changed the perception of marketers. There was sudden rise in usage of technology as complete lockdown and social distancing became mandatory in all the countries resulting in closure of much business concern. There was less, rather no income for many companies, majority of people were thrown out of employment, and minimal earning to lead their lives was the need of an hour. Consumer's buying behaviour have changed as they were conscious more on price of products and about the brand. They expected what marketers do for them as they were using technology in every walk of their life. This made the marketers to listen, feel, sense the consumers and made a drastic change in decision making, budgeting according to consumer's preferences, more creativity in designing the product and usage of media to attract them towards their products.

However, the products will cease to exist if there is no demand for the products therefore the marketer should strive hard to improve the sales by adopting various marketing strategies to retain the old customers and attract the new customers (Ansari and Gunjoo, 2020). Research specifies that advertising plays sensitive role to business fluctuations in the economy. Usage of technology in advertising had a predominant place in profitability of the business concerns (Bakar and Rosbi, 2020). Seasonal advertising bagged more attraction of consumers as they provided awareness about the product when compared to Cyclical advertisements. Further, the price play an important role in deciding the purchasing the products. Uniqueness and importance of the product by the customers focuses on markets in designing products that offer the customers value for the money. Hunneman (2020) specified that creating more variety of products to consumers with good quality of service, with discounts, offers with price sensitivity to increase the promotion of sales. This paper discusses some early theories of how the pandemic has affected marketing strategy, the key marketing ideas, the marketing setting, and marketing philosophy.



**Fig-1: Comparison of Economic Indicators of China, India, Japan and the US during the Time of the Covid-19 Pandemic**



**Fig-2: Impact of Covid-19 on Business**

## Objectives

- To analyse the concept of marketing.
- To determine the impact of covid-19 on marketing.
- To ascertain the future role of marketing post covid -19

## Findings

The concept of market has changed considerably due to pandemic the shift is more toward online marketing (Woodroof et al., 2019). Marketers are adopting various technological strategies to attract the consumers and to retain them. Branding the product has gained more importance. Consumers are able to shop without going to markets which help to save time and money. The impact of covid-19 has drastically changed the outlook of market and marketers perception (Table-1, Fig-1&2). Though it benefited the consumers, marketers have to spend more for online advertising and delivering the products at the doorstep of consumers to build the brand positioning in the ultimate reward which marketer gains (Wang et al., 2020; Optimizely, 2021). This particular crisis era necessitates the employment of many media, including probably more television and radio advertising as well as less outdoor and more online advertising. Leaders of the AMA branch think emails are more powerful than posts on social media. These attitudes were also implied by recent Facebook, Twitter, and YouTube issues. To contact their clients, some managers employ highly targeted, one-of-a-kind direct mailings (Steimer 2020).

**Table-1: Cumulative Impact of Covid-19 on marketing sector across the world**

	Agriculture	Natural resources	Manufacturing	Services	Domestic services affected by pandemic	Traded tourist services	Total
China	-3.12	-1.08	-3.61	-3.67	-4.85	-4.64	-3.54
Developing EAP excluding China	-2.70	-1.04	-3.21	-5.40	-9.45	-11.28	-4.12
Cambodia	-2.87	-3.98	-2.69	-9.66	-14.96	-19.00	-5.11
Lao PDR	-2.41	-3.89	-2.60	-5.85	-12.18	-15.02	-3.57
Malaysia	-4.19	-0.79	-4.11	-4.34	-7.30	-9.73	-4.03
Thailand	-3.06	-2.91	-4.43	-6.84	-11.53	-14.64	-5.29
Vietnam	-3.06	-0.72	-3.34	-3.93	-8.52	-8.99	-3.37
Philippines	-2.51	-2.65	-3.93	-5.16	-11.10	-13.30	-4.44
Indonesia	-2.70	-0.61	-3.03	-3.67	-7.65	-8.84	-3.15
Hong Kong SAR, China	-1.29	-3.24	-1.33	-6.06	-8.46	-9.23	-5.35

Korea, Rep.	-3.91	-4.25	-3.68	-4.53	-6.87	-6.15	-4.10
Singapore	-2.61	-3.47	-4.32	-4.01	-7.18	-6.28	-4.11
Taiwan, China	-1.04	-7.75	-1.80	-6.84	-7.82	-7.17	-4.15
Canada	-4.30	-1.10	-3.25	-3.02	-8.95	-9.16	-2.96
Europe	-3.00	-1.02	-2.89	-4.02	-9.04	-9.06	-3.65
Japan	-4.71	-2.85	-2.77	-4.62	-8.75	-8.35	-3.98
United States	-3.60	-0.21	-2.45	-3.80	-9.99	-11.27	-3.38
Middle East & North Africa	-2.76	-1.65	-2.67	-3.02	-9.11	-10.03	-2.65
Sub-Saharan Africa	-2.51	-1.72	-2.95	-3.02	-6.35	-8.13	-2.79
Brazil	-3.40	-1.20	-2.86	-3.14	-8.55	-9.28	-2.99
Rest of Latin America & Caribbean	-2.64	-1.21	-2.94	-4.05	-10.51	-11.87	-3.49
Russian Federation	-3.00	-2.19	-3.73	-3.86	-8.72	-9.62	-3.58
Rest of Europe & Central Asia	-2.20	-0.59	-3.53	-5.07	-10.20	-11.36	-4.20
India	-3.36	-0.84	-3.98	-4.35	-8.23	-8.76	-4.03
Rest of South Asia	-2.62	-2.64	-3.25	-5.23	-8.04	-9.28	-4.14
Oceania	-3.93	-1.89	-3.10	-3.20	-8.21	-8.07	-3.11
Developing countries	-2.90	-1.42	-3.47	-3.87	-7.98	-8.63	-3.51
High-income countries	-3.49	-0.95	-2.78	-4.00	-9.20	-9.60	-3.59
World Total	-3.04	-1.29	-3.13	-3.95	-8.77	-9.26	-3.56

The impact of covid-19 on marketing policies:

Assortment:

In order to improve profitability, several businesses are using the COVID-19 crisis to critically assess the extent (breadth & depth) of their range. A 25% reduction in terms was evaluated for both the short- and long-term effects on category sales (Diresta et al., 2020). They discovered that while a significant range decrease can result in significant short-term category sales losses, it only negatively impacts long-term sales on a weekly basis. Unknown is the impact on customer profitability and lifetime value.

These could fall if customers decide to buy elsewhere for some or all of their needs as a result of specific products being out of stock. Therefore, it could be beneficial to re-evaluate the current product selection. The requirement for a critical assessment of the assortment's product supply is suggested by Covid-19. This is also a result of potential adjustments to how we define individual product and service use in the post-COVID-19 era (He and Harris, 2020).

### Private labels:

Private labels' market share grows during economic downturns at the expense of national brands and decreases during boom times. Even after a slump, branded products typically capture a smaller proportion than they did prior to the downturn. It is therefore essential to spend money on branded goods. This is especially important for national and international brands that are genuine, transparent, and safe given the Euro Monitor big trends outlined previously in this study. As the COVID-19 crisis coincides with continuing discussions on climate change and its effects on our world and its inhabitants, the brand's sustainability also plays a significant role (Hamilton, 2020).

### Price and price promotions:

Price must be used as a marketing tool during the crisis with extreme caution. During a contraction, consumer price sensitivity rises. If prices rise without corresponding improvements in the calibre of the offered goods and/or services, customers will be dissatisfied (Hunneman 2020). To react to heightened price sensitivity, temporary discount offers can be implemented. Price reductions might also result in a price war and a decline in the reference price. Volume discounts are not an option because the current crisis has resulted in unwarranted product hoarding (Kamel, 2021).

### Communication:

Companies typically cut back on their spending on marketing and communication during times of crisis. Advertising spending is much more susceptible to business changes than the overall economy. Additionally, the growth of private label sales is higher in nations with more cyclical marketing spending, translating to large losses for brand producers. According to research, consumers can be more sensitive to advertising during times of contraction than during times of expansion (Omar et al., 2020). This was further validated for food items but not for beverages. As a result, it is impossible to make generalisations regarding this. Companies who continue spending on communications during a contraction, however, may get a larger "share of voice" in the market if rivals do so.

### Conclusion

Covid-19 has changed the methods of implement marketing strategies to by modifying marketing policies .Marketer supplies various branded products by trying to understand the consumer in advance by collecting the required data and keeping the product price reasonable. Marketers focused to communicate every minute details of the product to the consumers. Repeated advertising about the product has changed the perception of consumers resulting in increase in profitability of the concern . In present global marketing the marketers must reach large numbers of consumers which is possible through contact advertising and availability of branded products at reasonable prices. The strategies like offering discounts, rebates, gift vouchers, one plus one offers etc., also tries to attract the consumers resulting in increased profits and to make the brand popular.

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## **CHAPTER 09**

### **IMPACT OF COVID-19 ON COMMERCE AND ECONOMICS**

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#### **INTRODUCTION**

The global impact of COVID-19 has been a disastrous. COVID-19 has rapidly transformed everyday life. While the scope of this pandemic is global, consumers experience the various economic impacts. Understanding the impact of COVID-19 a view of the interactions between consumers and merchants within communities, which can inform ongoing efforts to aid the recovery of local economies. The impact of COVID-19 on India has been largely create disruption in terms of economic activity as well as on the commercial activities. Almost all the sectors have been largely affected by this pandemic, demand in domestic country as well as in foreign countries are sharply hurtled with some notable exceptions so that high growth can be observed. Effect of the COVID-19 pandemic on consumer behaviour and consumption in the context of restricted mobility of resources, changing social structure, changes in technological advancements and rising middlemen. As different production an attempt is also made towards analyzing the impact and adopt a suitable measure that provide useful solution.

### NEGATIVE IMPACT

The COVID-19 pandemic has resulted to large number of deaths, workplace desertion, reduction in demand and productivity, has created a negative impact on the supply factor, and manufacturing and production activity are also slowing down by the disruption in supply chain and closures of different production units. The lockdowns lead to the closure of various production units or offices and thereby the physical life of assets such as plants, machinery, and office equipment needs to be revalued because the rate of interest may be varied by the time passes. The consumers also slow down their spending behaviour because of less income criteria followed by different industries and production units. Sales have also decline due to the restrictions on travelling, social distancing, putting some large projects on hold and restrictions on sale and purchase of some commodities. Companies started struggling over to cover the fixed cost instead of revenue generation due to the low pace of sales. The COVID-19 effects on the various factor such as Increase in the unemployment rate, low industrial production, Trade deficit balance, Fluctuations in the equity markets, declining foreign exchange rates and Hike in prices of gold and silver. In COVID-19 era the mostly affected sector is the manufacturing sector

### POSITIVE IMPACTS

COVID-19 makes the economy a digital one where most of the public adopt a digital method for making payments from buying groceries to seeking online consultations from doctors related to medical conditions and for financial aspects. The nature of the job also changed by the impact of COVID-19. It has led to a lot of companies starting rethinking about office spaces and on-site work. Most companies such as Facebook, Google, and Wipro have made announcements regarding giving the option to staff to work from home. Most companies prefer to work from home of this the spending on office space can be cut down and the productivity of work can be measured through timesheets. The central bank introduces programs that are generating a great liquidity position in the capital market by cutting down interest rates and introducing different borrowing schemes. By this, individuals and businesses generate easy borrowings to start their projects in an effective way and to appear in the economy. The government also takes initiative to change the pace of policy reforms in this respect the government introduces Agri market reforms in which the farmers have the choice to sell their produce to whomever they choose.

### CHALLENGES IN THE POST COVID-19 ERA

Covid-19 has largely effects the supply chain on the global level. Due to the digital Due to a huge rise in online shopping during and in the post-covid-19 period, a huge rush can be seen on the e commerce websites which leads to crashing of servers. The COVID-19 pandemic resulting into an economic fallout cause hardship. In the early months of the crisis, millions of people lost their jobs and become unemployed.

The criteria of unemployment remains high throughout 2020 this problem create a big hurdle to the customers as well as to the businesses houses. Various Health and safety regulations are also imposed on the e commerce sites such as amazon, flipkart etc. these guidelines are given by both state as well as central government.

### COVID-19 COMMERCE TRENDS

The COVID-19 lead to great boom on digital economy. With the broad expansion of product categories, now shoppers are likely to order from online retailers rather than normal store. With this change some shoppers turned to digital commerce, others use of new or expanded pick-up or delivery options from their local, physical stores. Several social media platforms took advantage of higher online retail demand by adding more commerce features, enabling shoppers of participating online retailers to browse and purchase products without ever leaving the platform.

### STEPS TAKEN BY THE GOVERNMENT TO AMELIORATE THE IMPACT OF COVID-19 PANDEMIC

To avoid the large impact of this outbreak, the Indian government has taken some measures that include the rate of corporate tax being slowed down, increasing the moratorium period, and also providing fiscal stimulus of Rs. 2 lac to needy people through the Aadhar-based benefit scheme.

The government of India put steps towards various measures. These measures are:

- Orders of self-isolation or self-quarantine.
- Travel restrictions.
- Sanitizing on a large scale.
- Disabling group gatherings.
- Closing inter-state borders.
- Screening at domestic and international airports.
- Banning entry of foreigners.
- Denial of any form of Visa to any country.
- Helping the patients who are suffering from this pandemic recover from several positive cases.
- Increasing the number of testing centers.
- Lock-down of all cities, districts, and even states is done.
- Shutting down schools, colleges, temples, malls, shopping centers, local bazaars, gymnasiums, cinema halls, and various facilities for public gatherings.
- Providing work-from-home options for employees.

## STRATEGIES ADOPTED BY THE GOVERNMENT OF INDIA

To reduce the destruction of covid19 pandemic, different types of plans and strategies have been announced by the government of India and the reserve bank of India. Some of the strategies and plans are written below.

- To promote or encourage the workforce by introducing ‘Atmanirbhar Bharat Abhiyan’.
- The credit limits for regular banking account holders have been increased.
- Credit facilities have been provided to affected sectors in a friendly manner
- A large number of people have lost their jobs, so to keep these employees the government insists that companies not leave them and make their work in digital form.
- Providing support to low-income groups financially.
- The terms and conditions related to the payment of taxes have been made easier.
- The government provides financial support to aerostatics allotted financial aid for aviation.

The situation of the Covid-19 pandemic has badly affected various sectors of the Indian economy. The core three sectors of the economy i.e. agriculture and allied sectors, industry, and service sectors have been impacted at a great level. The growth rate of every sector and overall the economy fell. According to a UN report, the Indian economy will be impacted by \$ 348 million. The figure may be more than the given as per the situation. A large number of people lost their jobs and moved to other countries to find their livelihood. Hence, the rate of unemployment in the economy increased drastically. The government of India and the RBI are trying their level best to maintain the health of people and the economy. So various packages have been declared to push the economy.

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## **CHAPTER 10**

# **A CRITICAL PROBE IN INDIAN ECONOMY AMIDST POST COVID 19: A PERSPECTIVE**

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### **Abstract**

This paper highlights the impact of COVID 19 on various sectors of Indian Economy i.e. primary, secondary and tertiary. All sectors faced the horrific effects of Pandemic in 2020, when this fatal disease hit the country. The after effects of the crisis are still prolonging in the economy by the way of reduced demand, diminishing employment rated, fall of GDP and many more that leads to the vicious cycle further. The study describes the challenges for the economy after the crisis period and recommends the ways to tackle with those challenges so as Indian Economy could be cushioned so well that gives strength to deal with the next waves of the Pandemic.

**Keywords:** COVID 19, Indian Economy, Pandemic, Sectors, GDP, Employment

## 1.Introduction

The outbreak of COVID 19 was an abrupt shock for the whole world and especially India as a sudden announcement by Prime Minister about complete lockdown in March 2020 was never expected by anyone in the country. This brought a complete downturn in the economy and almost all the sectors like agriculture, small scale industry, tourism, insurance, pharmaceutical etc. were affected harshly. The business scenario in Indian Economy was completely disrupted. This lockdown led to steep fall in GDP rates, drastic reduction in unemployment rates, and collapse of tourism and hospitality industry. The very basic supply chains of groceries and household items were no exception. The crash of stock market, the declining government revenue further aggravated the situation. Not only this was the worst recession in World History, but also it left the ripple effects that continue even after the two years of Pandemic. The Indian Economy is in constant state of uncertainty due to unexpected waves of the pandemic or the risk of any other such disease that can spread like a forest fire. However, this has also led to opportunities as well in terms of rebuilding supply chains, exploring international advantages, utilising the optimum potential of technological innovations.

## 2.Review of Literature and Research Gap

The studies have highlighted the negative impact of COVID 19 on Indian Economy and discussed in detail all the sectors that are adversely affected the Indian Economy. (Rakshit, 2020; Ghosh, 2020). The studies have thrown light in the sharp decline in macro-economic indicators of the economy like GDP, GVA, Employment levels, Poverty rates, Inflation rates by studying their trends over the period of time. (Kumar, 2020; Mehta 2020). Also, the research has evaluated the impact of Covid 19 on trade and commerce in Indian Economy in detail. (Aggarwal, 2020). However, very few papers have analysed the reboot mechanism and the challenges for the Indian Economy in this Post Covid times. The need of the hour is to frame out some policies through creative solutions to gear up the Economy at a faster pace. So, this paper studies the challenges and suggests solutions for the same.

## 3.Objectives of the Study

- i)To discuss the effects of COVID 19 on Indian Economy.
- ii)To evaluate the challenges for Indian Economy in Post COVID times
- iii)To frame out the solutions to overcome those challenges and reboot Indian Economy.

## 4.Challenges for Indian Economy in Post COVID Times

Recovery is always the most crucial part for any economy in post COVID times. There are enormous challenges. However, Indian Economy is on the road to reboot itself and striving to overcome all the challenges.

### i) Increase Consumption Levels

Demand has been completely swiped off in COVID times. People have become conscious for their spending pattern. It has been a big deal for the companies to acquire that portion of disposable income of the consumer which is a big challenge.

### ii) Increase Employment Levels

Development and recovery of Economy is indispensable with increasing employment. Taking initiatives to create the job opportunities is the biggest challenge as it is the employment only that can solve the problems of diminishing demand and declining GDP.

### iii) Advertise New Normal

Government, companies, industries have to come up with new products, new services that can be adopted in post COVID times and that become the part of new normal lives of the people.

### iv) Revive Tourism and Fashion Industry

The most important thing is to rebuild the economy globally by attracting foreign capital inflow. This will ultimately help appreciate the currency and build foreign exchange reserves. This can be done by reviving tourism and fashion industry.

### v) Reallocate credit and Demand for MSMEs

A new venture, promotion of entrepreneurship is the key solution to many problems of Indian Economy. So, providing concessional funding to MSMEs and supporting the backbone of the economy can be a revival strategy.

### vi) Strengthen Healthcare systems

COVID waves are very unpredictable, so preparing the healthcare system of the economy in case any circumstances arise is also a very big challenge. Developing proper healthcare infrastructure and recruiting qualified and experienced staff can help revamp the system.

### vii) Strive for Technological Advancements

Video conferencing, at home arrangements, internet at a click, 5 G telecommunications is the new normal in post pandemic times. So, it is also the big challenge to compete with foreign nations in terms of technological advancements.

## 5. Recommendations to Reboot Indian Economy/ Policy Implications

### i) Innovations to capture Market Share

Innovative products, creative way of delivering services that coincide with all the precautions necessary in post COVID times can help companies capture the market share again and increase their demand levels.

### ii) To encourage trade surplus and provide export subsidies

It is the foremost responsibility of the government to ensure trade surplus by providing export subsidies and imposing import restrictions, so as to accumulate foreign exchange reserves and increase the value of Rupee in terms of other currencies.

### iii) To initiate schemes for Small Scale Industry

Strengthening the core of Indian Economy is only possible through building the small scale industry. This can be done by initiating concessional lending, providing technical know-how and fill other necessary gaps for them.

iv) Enhance employability levels by developing skilful youth

Vocational training centers, providing skills to the youth that can enhance their employability levels can help rebuild the Indian Economy from its very roots.

### 6. Conclusion

It is true that Indian Economy has suffered a lot in pandemic times and there is no magic bullet that can reverse the effects of pandemic on Indian Economy. But gradual healing and learning from the lessons of this crisis can help Indian Economy reboot and rebuild itself and stand out in Global markets.

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## **CHAPTER 11**

### **IMPACT OF COVID -19 ON ECONOMY AND COMMERCE**

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#### Abstract

COVID -19 pandemic has been an event which has impacted almost the entire world. There have been in the history of mankind many such instances of epidemics or communicable diseases that has impacted large number of population like Spanish flu, black death, Asian flu, influenza pandemic etc but most of them been restricted to one or two continents/ restricted regions. By far, in terms of global impact, COVID-19 has been the worst because it has affected everyone on earth. While availability of better medical facilities/ timely vaccines the spread has been controlled or may have not led to as many deaths as in earlier pandemics but the fear or danger of pandemic is far from over. This pandemic has not only impacted our lives socially but has far reaching impact on global economy and trade and commerce. This article will analyse factors, quantum of impact and some of the remedies and actions that has led to recovery of economy over last 18-24 months.

By far WHO since its founding in 1948, has only declared three pandemics – which means when a disease spread across more than two continents. COVID-19, which began in Dec 2019 in China spread across the globe thanks to global mobility and was declared a pandemic in March 2020. Due to globalization and interconnected economies through trade and complex supply chain networks spread across the globe, the impact has been very widespread and hence been detrimental to the global economy.

Keywords : COVID-19, Indian Economy, Pandemic, impact

Macroeconomic impact:

To understand the macroeconomic effects of COVID-19, it would be useful to have some elementary supply-and-demand analysis in economics. Taking it forward, based on observation from Deloitte, the impact of COVID – 19 on global economy can be understood as: direct impact on production linked to supply, disruption in market and supply chain linked to supply and financial impact on market and companies i.e mainly demand.

First impact of COVID-19 was visible on supply side. Closure of production facilities and factories across China and other manufacturing hubs lead to shrinking of goods and services supply hence leading to drop in output, followed by higher prices. This phenomenon in economic terms is called ‘stagflation’.

The later part of article will detail out economic impact on various sectors in Indian context.

Drop in working hours or shrinkage in labour market:

More than what was initially anticipated, there was phenomenal decline in number of hours worked throughout the pandemic. The lockdowns which was earlier anticipated for few days extended upto few weeks. With no visibility around restart of work, there was unprecedented movement of labour especially in unorganized sector. Worst hit among all were the migrant labour who were forced to return to their natives due to lack of work opportunities.

The impact is felt across all sectors even after lockdown restrictions were lifted Apr 2020 onwards especially manufacturing and other brick and mortar industries.

Rising unemployment, reduced working hours, temporary layoffs, and low morale among job seekers are the main causes of drop in incomes across working population thereby impacting economy further. Some of the industries did saw upswing, especially IT sector due to digitization push of all the companies and need for remote connect to sustain work output.

Aviation Sector: Unexpected stalling and slow paced recovery.

As a result of widespread travel bans and lockdowns, all international aviation came to a sudden halt. Demand for air travel was severely hampered by the slow recovery that followed the crisis's prolonged aftermath. Most of the countries were really cautious towards opening their borders or lifting travel bans which continued for major part of 2020 and with second wave's unprecedented and disastrous impact in India, this got further hit. However, post second wave recovery this sector is also coming back to normalcy with demand increasing many fold in last 12-15 months due to recovery of other sectors and organization's push and need to be physically present.

Manufacturing sector:

Indian Manufacturing sector contributes significantly to overall GDP with approximately 20% share. The sector as a whole was already suffering long before the pandemic due to the fact contracting automobile sector in 2019. The fact that the automobile sector contributes to almost 50% of overall sector this impact was felt even further. There was around 15% drop in sales that was reported in auto sector and overall fall of 10% in production numbers. The main reason for this decline/ drop was due to slow down in overall economy, poor demand due to low customer sentiment and supply chain disruptions across the globe. Very significant impact was felt due to China's lockdown which is major hub for manufacturing and supplies for various commodities essential for Indian manufacturing sector.

Manufacturing sector was one of the worst hit among all, with massive labour exodus owing to a lack of money and job insecurity, cessation of all manufacturing activity during lockdown followed by disruption in flow of raw material to various travel and transport restrictions. Barring few exceptions of pharma, food & beverage, speciality chemicals most of the companies had seen huge decline in manufacturing activity. Even these sectors have come across lot of challenges – sharp increase in raw material prices, disrupted production, poor transportation and China's role in global supply chain.

Even post resuming normal operations, companies have to struggle due to severe workforce crunch, uncertainty or fear of another COVID wave and other global supply chain disruptions. However, due to government's strong resolve and positive customer sentiment this sector has seen good recovery post June 2022. Government has announced various schemes to boost industry especially manufacturing sector.

Agriculture and rural economy

During the early stages of the pandemic when lockdown and restrictions were imposed, has negatively impacted agriculture supply chain. This was made worse by the fact that the number of work force also got reduced and many left for their home towns the fear was so high that many decided not to come back. It showed how vulnerable Indian agriculture is, especially the perishable agriculture sector, and how important it is to make agriculture more resilient by creating an ecosystem for decentralized agri-food markets and digital connections. In light of these facts, it was important to support agriculture because it can help keep the Indian economy stable as a whole.

MSME: Micro, Small and Medium Enterprises

With about 120 million employees, MSMEs are considered as the important component of the Indian economy and the second-largest employer (after agriculture). These enterprises are mostly labour intensive and hence provide large employment opportunities, predominantly through informal sector. These enterprises provide huge opportunity for exports and imports and manufacture of 6000 products in both conventional and automated setup.

The MSME's contributes immensely to country's development through contribution to GDP, employment and trade and commerce – one third of country's GDP, 45% of industrial output, and 48% of exports.

MSME went through lot of challenges due to COVID and subsequent lockdowns - fall in the supply of labour due to mass labour exodus, decline in capacity utilization for production, supply chain disruptions that lead of components and raw material, fall in demand leading to deteriorating revenues and liquidity crises, loss of employment opportunities leading to further reduction in spending and consumption.

MSME are particularly vulnerable and hence impact of lockdowns been huge on them. Reasons for this vulnerability include – lower resilience, inconsistent alliances and relationships, non-availability of alternates and access to information related to lockdowns and support mechanism.

Government has initiated many programs to support MSME to come out after effects of pandemic. The same are discussed in later part of the study.

### Service Industry & retail

Indian retail industry has been one of the fastest evolving and growing sectors with very high growth in last decade. This sector plays an important role in bringing buyer and seller together. The retail sector in Indian context is classified as organized and unorganized retailing based on the employment condition. The COVID-19 by far was the biggest unpredicted disruption in the recent history and that has drastically impacted the external environment for retail sector. With the sudden lockdown the business was brought sudden half that has led to huge impact not only on small retailers but also for large retail chains, leading to closure of some the established businesses.

The disruption continued even after lifting of lockdowns because of overall shift in consumer behavior and people's apprehension to go to crowded places. There has been significant shift in customer's habits with movement towards contactless shopping and payments and online e-commerce platforms. This led to the huge growth e-tailers or e-commerce platforms.

Some of the challenges faced by retail sector is – decline in overall consumption, shifting of business to alternate platforms, impact on brand loyalty and disruption in supply chain. Specific to Indian scenario apart from above, inadequate infrastructure, poor distribution system, availability of manpower, insufficient funds also added to complexity and challenges.

The Indian Government has taken initiatives to improve the retail sector in India which includes announcing retail parks policy in some states like Andhra Pradesh Government, introduction of new structure for the digital payments for retail sector in offline mode by RBI, to accelerate digital payment adoption, 100% FDI for online retail of goods and services, introduction of retail sector and wholesale trades in MSME category and extending priority sector lending benefit to retail as per RBI guidelines.

While COVID-19 has been responsible for acceleration of digital ecosystem and rise e-commerce giants but gradually things have started moving to normalcy with the inherent needs of consumer to touch and feel the and product before making buying decision. While it will still take lot of time for this sector to come back to previous level or achieve similar growth, this sector still hold lot of promise. While competition for e-tailing will still remain the key competition in future too.

### Pharmaceutical Sector

The pharm industry plays an pivotal role during pandemics by extending high quality healthcare services, in a scenario when global supplies of essential medical goods and services can be overwhelmed or shut down due to the various reasons. Due to increase in ageing population, the introduction of new diseases, and the emergence of new medical problems, the industry's long-term potential remains on the up-swing.

62% of the demands for vaccines are contributed by the Indian pharmaceutical industry and more than 20% of the volume of the global generics market was fulfilled by India

The Chinese pharma sector, which is the world's largest producer and exporter of APIs in terms of volume, provides around 70–75 percent of the APIs and important starting materials that India's pharmaceutical industry uses in bulk. Due to disruptions in supply chain during pandemic, the manufacturing cost for key medicines in India such as penicillin, paracetamol, and anti-asthmatic drugs has surged by 40-50%. The pharmaceutical manufacturing units could not operate to their fullest capacities because of reduction in work shifts and non-availability of skilled labour. This problem was underutilization of capacities was further accentuated due to non-availability of transportation facility for raw material and finished goods, availability of packaging materials (as it was not covered under essential services).

Based on the issues that arose in the pandemic, to make manufacturing environment conducive & self-reliant, Indian government has undertaken many initiatives - Introduction Over the Counter drug sales, QR Code introduction API labelling and increased vaccine awareness in the Indian market.

The COVID-19 resulted into geo-economic and geo-political paradigm shift among Indian Pharmaceutical companies from just drug production to innovation in drugs, equipment and vaccine manufacturing.

### Pandemic Initiatives: Government role

National Master Plan (NMP) - Pradhan Mantri (PM) Gati Shakti: With the objective to increase the effectiveness of logistics, PM Gati Shakti NMP aims to provide multimodal connection to various economic zones and integrate the infrastructure linkages holistically.

National Monetisation Pipeline: with objective to harness potential of generating \$6 lakh crore through the central government's main assets over a four-year period, from FY2022 to FY2025.

Stimulus package during FY2022: Rs. 6.3 lakh crore package which includes Loan Guarantee Scheme to sectors impacted by pandemic; PM Garib Kalyan Anna Yojana extended till September 2022; Guaranteed scheme for Emergency Credit Line; programs for public health (Rs. 15,000 crore); Northeastern Regional Agricultural Marketing Corporation revival, etc.

Response to COVID-19 pandemic: Aimed to strengthen the health system by swiftly implementing the immunisation programme, and a robust national response to the pandemic.

Production-Linked Incentive Scheme: Introduction of ₹2 lakh crore for 14 sectors by GOI over a period of 5 years beginning FY2022. The programme named Mega Investment Textiles Parks (MITRA) was introduced in FY2022 with the goal of developing plug-and-play facilities and world-class infrastructure to produce exporting champions on a global scale.

Redefining micro, small, and medium-sized enterprises (MSMEs): Distinction between manufacturing and service MSMEs was removed leading to upward revision in definition for MSME's industrial and service sector.

Accommodative monetary policy: Maintaining bank repo rate at 4% in FY 2022 by RBI. RBI continued their accommodative stance in order to minimise the effects of the pandemic on the economy, maintain growth on a lasting basis, and ensure that inflation stayed within the target.

Microfinance policy: To align the regulation of microloans offered by organisations like commercial banks, NBFCs, and NBFC-MFIs, the RBI modified the microfinance policy.

Economy revival: V Shape recovery

The global economy has been severely impacted by the COVID-19 pandemic's spread across the world. To deal with this economic shock, people from all around the world collaborated together and made a concerted effort. Globally, we witnessed a strong commitment to overcoming the current crisis and using it as a foundation for future prosperity.

In Indian context, after three waves of COVID-19 pandemic spread over 2 years, though several sectors or industries were having trouble regaining their pre-pandemic pace, the Indian economy moved the path of revival from second quarter of FY2022.

The pace of improvement was comparatively fast resulting from partial rather than complete lockdowns, flexibility in COVID guidelines from time to time, well-coordinated vaccination drives through public private partnership. All the key economic and sectoral indicators have signalled sound recovery which is very encouraging and positive sign.

Indian GDP in FY 2022 has shown 8.7% growth in gross domestic product (GDP), higher than the pre-pandemic level hereby reinforcing our resolve and hope to become 3rd largest economy by mid of 2030s.

Stimulus package during FY2022: Rs. 6.3 lakh crore package which includes Loan Guarantee Scheme to sectors impacted by pandemic; PM Garib Kalyan Anna Yojana extended till September 2022; Guaranteed scheme for Emergency Credit Line; programs for public health (Rs. 15,000 crore); Northeastern Regional Agricultural Marketing Corporation revival, etc.

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Indian GDP in FY 2022 has shown 8.7% growth in gross domestic product (GDP), higher than the pre-pandemic level hereby reinforcing our resolve and hope to become 3rd largest economy by mid of 2030s.

In FY2022, all sectors (except real estate, financial services, agriculture and professional services) saw consistent & sustained growth in gross value add a substantial improvement over FY2021 (on adjusted price index of 2011-12). Agriculture sector, though remained consistent through the pandemic in FY2021 slowed down to the 3.3% growth during FY2022.

On the whole, overall economy is the right track to recovery and technology, telecom, IT infrastructure, manufacturing including electronics, semiconductors and defence, healthcare and pharma will play a pivotal role for future recovery and growth.

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**CHAPTER 12**  
**AN EMPIRICAL STUDY ON INVESTORS PREFERENCE**  
**TOWARDS LOW, MEDIUM, AND HIGH-RISK**  
**INVESTMENT AVENUES DURING PRE AND POST**  
**OUTBREAK OF COVID'19**

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Abstract

The financial markets were significantly affected by Covid-19, leading investors to rebalance their portfolios due to changing risk and return expectations. The main goal of this research paper was to investigate and evaluate the level of investor preference for several classes of securities before and after the Covid-19 epidemic. Data was gathered from 96 respondents of various ages, economic, and qualification groups in Vellore city. A non-parametric statistical technique called the Wilcoxon Signed Rank Test was used to assess investors' preferences for various investment routes between the pre and post-Covid periods. After COVID, investors favoured low-risk investments, while there was no difference between medium-risk investments before or after Covid. Investors typically favour asset types that promise consistent and steady returns with little risk. The decision to invest is ultimately rational and based on the risk tolerance and return expectations of the individual, which are determined by their subjective evaluation of many circumstances.

### Introduction

The emergence of the coronavirus (COVID-19) in China at the beginning of January 2020 not only caused a significant loss of life but also continued to have a detrimental impact on the global economy (Fernandez-Perez et al., 2021). The BSE SENSEX had a flash crash on March 2, 2020, as a result of the Union Health Ministry's revelation of COVID cases, and the WHO classified the outbreak as a pandemic on March 12, 2020. The lockdown has had a negative impact on the service industries, including travel, banking, and hotels. Nevertheless, every crisis creates some chances, and a few industries have risen to prominence, including technology, especially education technology, online gaming, and some forms of e-commerce, consumer goods, pharmaceuticals, agricultural products, and specialty chemicals.

Baldwin (2020) explains how COVID-19 affected economic income flows. First, because they have not been compensated, households limit their levels of spending and savings. Savings declines lead to less investment, which eventually results in a decline in the capital stock. During the COVID-19 period, stock values experienced a rapid decrease in response to an investor's erratic emotions. Therefore, whether stocks are simple to evaluate or complex, and whether they have been affected negatively or positively by emotions, there will be a significant impact on feelings (Aissia, 2016). Every aspect of life was threatened by the COVID-19 outbreak, including public health. Significant consequences also result from the global stock markets and financial markets' viability (Huang and Zheng, 2020). Tetlock (2015) concluded that unfavourable market news had an adverse effect on both the sociology and psychology of investors. The media's overly pessimistic outlook has a detrimental effect on market performance. Due to the high level of market volatility, investors may decide to protect their funds by only making investments in opportunities that guarantee a return. Nerlekar (2020). The COVID-19 epidemic has had a significant impact on investors' perceptions of and attitudes toward various channels for savings and investment. Most people lost their jobs and all of their funds as a result of the COVID-19 outbreak and government limitations (ILO-OECD, 2020). Individual investors now favour investments that offer greater security, a moderate return, and little risk. Samina M.K. Gill (2020) Investors typically respond to market feelings, fundamental analysis, and technical analysis while making investment decisions. Investors employ all three of them while making investment decisions, but their severity varies based on the goal of the investment, the investor's level of experience, and their risk tolerance. Hayat M. Awan, 2017.

## Review of Literature

In order to investigate how the COVID-19 pandemic affected individual investors' portfolio allocation decisions, Himanshu et al. undertook a study titled "Impact of COVID-19 on Portfolio Allocation Decisions of Individual Investors." Prior to COVID-19, the researcher discovered that people preferred riskier investments more than they did risk-free ones. The most popular form of investment is stock. Investing preferences have altered during COVID-19. Assets with no risk become more appealing. The most popular investment option is insurance, which is followed by gold, bank deposits, and state provident funds (PPF).

In order to examine how the COVID-19 pandemic has affected people's financial and investment decisions in small towns in developing countries like India, Arpita Gurbaxani and Dr. Rajani Gupte conducted a study titled "A Study on the Impact of COVID-19 on Investor Behaviour of Individuals in a Small Town in the State of Madhya Pradesh, India." The researcher discovered that individual investors' willingness to invest in mutual funds and the stock market has been significantly damaged because of the government's control measures against COVID-19, such as lockdown and the stock market meltdown.

A study on the impact of the COVID-19 pandemic on the manufacturing sector's savings and investment patterns was conducted by Annie Rose Nirmala et al. According to the study, there was a significant correlation between saving and investment behaviour during the COVID-19 epidemic. Additionally, they claim that people typically invest for financial security in difficult circumstances, particularly in their later years. Researchers discovered that investors are choosing safe investment strategies that offer constrained and low-risk gains as they become more risk-averse. The majority of their investments had turned out to come from their regular savings. In Tamil Nadu, investors favour investments with modest risk. (The majority of them favour gold and bank deposits as investments.)

## Main Objective

To study and analyse the degree of investors' preference towards the low, medium, and high risk investment avenues during the pre- and post-outbreak of COVID-19.

## Hypothesis

- 1.Ho: There is no significant difference in the investors' preference for low-risk investment avenues during the pre- and post-COVID-19 scenarios.
- 2.Ho: There is no significant difference in the investors' preference for medium-risk investment avenues during the pre- and post-COVID-19 scenarios.
- 3.Ho: There is no significant difference in the investors' preference towards high-risk investment avenues during the pre- and post-COVID-19 scenario.

Low Risk Investment

Ho: There is no significant difference in the investors’ preference for low-risk investment avenues during the pre- and post-COVID-19 scenarios.

A Wilcoxon signed-rank test had been conducted to determine whether COVID-19 had an effect on the investors’ preference for low-risk investment avenues. The results indicate a significant difference between the investors' preferences for pre-covid (M = 2.60; SD = 1.46) and post-covid (M = 3.73; SD = 1.19) [Z = -6.269, p =.000]. We, therefore, must reject the null hypothesis and conclude that COVID-19 had an effect on investors’ preference for low-risk investments. Investors preferred low-risk investments after COVID.

Medium Risk Investments

Ho: There is no significant difference in the investors’ preference for medium-risk investment avenues during the pre- and post-COVID-19 scenarios.

A Wilcoxon signed-rank test had been conducted to determine whether COVID 19 had an effect on the investors’ preference for medium-risk investment avenues. The results indicate no significant difference between the investors' preference pre-covid (M = 3.28; SD = 1.28) and post-covid (M = 3.06; SD = 1.38) [Z = -1.73, p =.084]. We, therefore, must accept the null hypothesis and conclude that COVID 19 had no effect on investors’ preference for medium-risk investment. There is no difference in the attitude toward medium-risk investment before or after COVID.

**Table 1: Types of Investment**

Wilcoxon Signed Rank Test								
Types of Investment		N		Mean	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Post Low Risk Investment - Pre Low Risk Investment	Negative Ranks	8 <sup>a</sup>	Pre Low Risk Investment	2.6042	30.50	244.00	-6.269	.000
	Positive Ranks	66 <sup>b</sup>	Post Low Risk Investment	3.7292	38.35	2531.00		
	Ties	22 <sup>c</sup>						
	Total	96						
Post Medium Risk Investment - Pre Medium Risk Investment	Negative Ranks	40 <sup>d</sup>	Pre Medium Risk Investment	3.2813	30.30	1212.00	-1.73	.084
	Positive Ranks	22 <sup>e</sup>	Post Medium Risk Investment	3.0625	33.68	741.00		
	Ties	34 <sup>f</sup>						
	Total	96						
Post High Risk Investment - Pre High Risk Investment	Negative Ranks	45 <sup>g</sup>	Pre High Risk Investment	3.2604	35.81	1611.50	-2.24	.025
	Positive Ranks	25 <sup>h</sup>	Post High Risk Investment	2.9792	34.94	873.50		
	Ties	26 <sup>i</sup>						
	Total	96						
a. Post Low Risk Investment < Pre Low Risk Investment								
b. Post Low Risk Investment > Pre Low Risk Investment								
c. Post Low Risk Investment = Pre Low Risk Investment								
d. Post Medium Risk Investment < Pre Medium Risk Investment								
e. Post Medium Risk Investment > Pre Medium Risk Investment								
f. Post Medium Risk Investment = Pre Medium Risk Investment								
g. Post High Risk Investment < Pre High Risk Investment								

### High Risk Investments

Ho: There is no significant difference in the investors' preference for high-risk investment avenues during the pre- and post-COVID-19 scenario.

A Wilcoxon signed-rank test had been conducted to determine whether COVID 19 had an effect on the investors' preference for high-risk investment avenues. The results indicate a significant difference between the investors' preferences pre-covid ( $M = 3.26$ ;  $SD = 1.46$ ) and post-covid ( $M = 2.98$ ;  $SD = 1.38$ ) [ $Z = -2.24$ ,  $p = .025$ ]. We, therefore, must reject the null hypothesis and conclude that COVID 19 had an effect on investors' preference for high-risk investment. Investors preferred high-risk investments before COVID but not after COVID.

### Key Findings

Investors preferred low-risk investments after COVID. There was no difference in preference for medium-risk investments before or after COVID; however, investors have not preferred high-risk investments after COVID.

### Conclusion

The economy has been negatively affected by the COVID-19 outbreak. Overall, it is clear that investors have become more cautious in their investment decisions due to the pandemic. Low-risk investments are preferred as they offer the most assurance of a return, while medium-risk investments remain popular as they offer a good balance of return and risk. High-risk investments, however, are not as favoured as before due to the uncertainties caused by the pandemic. As such, investors tend to be more judicious in their approach to investing and prefer to focus on low- and medium-risk investment avenues. According to a survey conducted by the Investment Company Institute, 75% of investors chose low-risk investments in 2020, compared to 67% in 2019. Similarly, the share of investors opting for medium-risk investments remained the same at 32%. However, investors' preference for high-risk investments dropped from 6% in 2019 to 5% in 2020.

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**CHAPTER 13**  
**A STUDY ON IMPACT OF COVID -19 ON GST COLLECTIONS**  
**WITH SPECIAL REFERENCE TO NORTH EASTERN STATES,**  
**INDIA**

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**Abstract:** The opportunity for collecting indirect taxes has expanded for North Eastern (N.E.) Indians in recent years. Many taxpayers in north-eastern India were not paid their indirect taxes prior to the introduction of the GST. Earlier indirect tax systems had numerous loopholes due to their complexity, which the tax payers took advantage of. The introduction of the GST, which is referred to as a "One Nation One Tax" for everyone and everywhere, is a game-changing move by the government in the domain of indirect taxation. Therefore, North Eastern states demonstrate their potential for collecting GST, and it was a big effort on the part of both the state government and the citizens of the region as many individuals enrolled for the GST system. There are eight states in the Northeast, and each one has contributed to the substantial increase in the number of GST registrations during the past few years. In comparison to GST collection within the states, NE states collect higher SGST. While economic growth in New England states begins as a result of GST collection, the number of people registering for GST must also rise. Evidence suggests that consumer spending has grown.

**Key words:** GST Registrations, SGST, Revenue Potentials, GST Collection, N.E States, etc.

### Objectives:

1. To investigate the effects of COVID-19 on GST collection during the pre- and post-period.
2. To research the North-Eastern states' potential revenue from the GST.
3. To research how the N. Eastern Indian states collect GST.

### Examining the Literature

1. Reformation of India's Indirect Taxation System (GST) "This article provides a concise picture illustrating the current condition of India's complicated tax assessment and collection framework. It explains the need for switching from the conventional spending structure to the GST model. In India, indirect taxes are levied by both the central and state governments. Taxes are under the control of the state administrations. A tax expert is employed by each state to control the tax system and set the tax rate. Impact and dual duty have been negatively harmed by a flawed tax collection system. Another VAT account that offers an unlimited setoff for the information assessment credit and covers a range of ancillary costs at the local and federal levels is merchandise and administration expense. The core of this study has been a point-by-point analysis of the planning and development of the restructuring of indirect tax collection, which encompasses issues, government initiatives, and other topics. The proper assignment of sources and their regions is anticipated to follow India's establishment of a complete indirect taxation system. The nation's existing tax collecting system, on the other hand, is characterised as onerous, perplexing, and unpleasant; it might be seen as a deliberate attempt to simplify matters and reorganise the country's tax structure. The two governments of India each have their own unique tax structures and processes, and they both need to be taxed. Since the introduction of the GST, all indirect taxes have been combined under one roof. In this study, serious effort has been undertaken.

2. GST CALCULATOR MARKETABILITY IN GUWAHATI CITY, "India's taxation structure has seen significant transformation in recent years. It has existed in the past in a number of different forms, counting more than one. The indirect taxation structure has undergone a significant transformation as a result of the adoption of the goods and services tax. A number of the old indirect taxes have been replaced by the new tax system. Based on the idea of "one nation, one tax, one market," GST is a single indirect tax for the entire country. The tax system has been simplified, but the calculation has been made more difficult because different commodities and services come under different tax slabs, such as 0%, 5%, 12%, 18%, and 28%. The competitive position of a brand, product, or service in relation to a market is known as marketability. Marketability can take many different forms, including pricing and cost, quality, consumer expectations, functionality, distribution, and reputation. The focus of the Indian calculator market has always been on technology and calculator upgrades. It comes in a variety of shapes, including pocket calculators and card-sized calculators.

As with the advent of GST, the Japanese business Casio recognised the need for a calculator to simplify the calculation of GST and provide simple invoicing for various traders and others.

3. A thorough examination of India's Goods and Services Tax (GST). "India's most major taxation change since gaining independence in 1947 is largely regarded as the Goods and Services Tax (GST), which took effect on July 1, 2017. Originally set to take effect in April 2010, the Goods and Services Tax was postponed due to political uncertainty and conflicting interests of numerous parties. The primary driving force behind the establishment of the Goods and Services Tax in India is the introduction of a single taxation structure (GST). Among other indirect taxes now in use in India, this includes the Central Excise Tax, Value-Added Tax/Sales Tax, and Service Tax. The GST-based tax system increases transparency in the tax system, which raises GDP growth from 1% to 2% and lowers the incidence of tax evasion and corruption in the nation. In-depth analysis of the advantages to various sectors of the Indian economy following the application of GST as well as some of the obstacles associated with GST implementation were discussed in this paper, along with the history of the taxation system, the GST idea, and its important characteristics.

4. GST gene polymorphism in North East India HCC cases: A pilot study.

Aim: The goal of the current study was to compare the genetic variations of GST, a cancer-related gene, in HCC patients and healthy people in the NE region of India. According to the 1975 Helsinki recommendations, 80 instances of age- and sex-matched healthy persons and 40 consecutively verified cases of HCC were included. In all instances, whole blood was used to extract DNA using a DNA extraction kit, which was followed by PCR amplification and RFLP. For commercial sequencing, representative amplicons were sent. Mutation Taster was used to analyse the results. While it was discovered in 66 out of 80 (82.5%) control cases, GSTM1 non-null genotype was revealed in 16 out of 40 (40%) cancer cases. In 24 out of 40 (60%) cases and 14 out of 80 (17.5%) control cases, respectively, GSTM1 null genotypes were found. It was found that those with the GSTM1 null genotype had a seven-fold increased chance of developing liver cancer than those with the GSTM1 non-null genotype. While it was present in 72 out of 80 (90%) control cases, the GSTT1 non-null genotype was discovered in 29 out of 40 (72.5%) cancer cases. Again, 11 out of 40 (27.5%) cases and 8 out of 80 (10%) control cases had the GSTT1 null genotype. It was found that those with the GSTT1 null genotype had a nearly three-fold increased chance of developing liver cancer than those with the GSTT1 non-null genotype. If several cancer-related genes and their interactions with GST gene polymorphism have been examined in a sizable population, it would be extremely helpful for the study. However, the current study will produce a baseline set of information about HCC in the northeastern population with unique genetics.

5. **GSTR IMPACT ON SMALL, MEDIUM, AND MICRO ENTERPRISES**, "SMEs have become the most significant source of employment for a developing nation like India, with its various demographics, and have supplied balanced medium-sized businesses. SMEs will be the ones who will most fully appreciate the benefits of the GST's "One Market" initiative. The current tax system makes it difficult for SMEs to reach potential clients throughout India. Small and medium-sized businesses (SMEs) in the nation are in disarray as a result of the Rajya Sabha's ratification of the unified Goods and Service Tax. The majority of individuals believe that SMEs will be negatively impacted by GST since perks like excise exemption will be eliminated once GST is implemented. The GST was implemented by the government with the intention of expanding the tax base, not of raising taxes for both enterprises and individuals. The impact of GST on the MSME sector—both good and bad—is the main topic of this study. Growth throughout industries. Let's look at how the GST might affect small businesses and research methodology.

GST Collections of Northeast India A study on the N.E. Indian states' high revenue potential between 2018 and 22 is titled Pre & Post Covid-19.

1. To investigate the effects of GST collection during and after the year 2019;
2. To research the GST's potential for tax revenue in North Eastern states.
3. To research how the N. Eastern Indian states collect GST.

GST collection in India and the North Eastern States is the subject of this study.

studies: analytical studies, This essay is built upon a foundation of material that has been developed through time. Additionally, a critical analysis free of extraneous data, thought, etc. is assisted by it.

Methodology: This study is entirely based on secondary data from sources including government websites, journals, magazines, and news publications.

Beginning in March 2020, India will be under a total lockdown for almost a full year because of the global Covid-19 pandemic. The coronavirus pandemic has had a significant negative economic and human life-loss impact on India. Economic activity ceased entirely. The output of goods and services decreased as all factories and offices were temporarily shut down, leading to a lack of goods. Since practically every industry has been impacted by this global pandemic, the government will need money and income to maintain the economy, which can be obtained through GST. However, because to tight restrictions brought on by Covid-19, there was a disruption in the free flow of goods and services, which negatively impacted the GST collection in the Indian states. In 2020, Bansal, Sharma, et al.

Since India's independence in 1947, the Goods and Services Tax (GST), which went into effect in July 2017, is regarded as the country's most significant tax reform to date. The main reason for the construction of GST was to replace all indirect taxes in India, including Central Excise Tax, VAT/Sales Tax, Service Tax, and others with a single taxation s

structure. The GST-based taxation system promotes tax transparency, boosts GDP from 1% to 2%, and decreases tax evasion and corruption in the nation. Singh and Nayyar (2018).

The introduction of the Goods and Services Tax (GST) in the nation has significantly benefited the North Eastern (NE) states. The country's largest rise in tax revenue was recorded in Arunachal Pradesh, while Manipur, Mizoram, and Nagaland also performed significantly better than average. The SGST, a part of GST that represents tax collected within the state, has increased revenue for all the North Eastern states. Nepram and Konsam, 2021 According to The Economic Times, North Eastern states saw a greater than 30% increase in GST collection during the first four months of 2019–2020 compared to the major manufacturing states. Nagaland had the highest growth among the north-eastern states from April to July of the 2019-2020 fiscal year, at 39%, followed by Arunachal Pradesh at 35% and Sikkim at 32%. Meghalaya and Mizoram, on the other hand, saw barely 30% and 27% growth, respectively.

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GST stands for tax on supplies of products, services, or both, but not on supplies of alcoholic beverages for human consumption. In 1954, France became the first nation to enact GST. More than 160 nations have implemented GST in the last 63 years.

In India, the Kelkar Task Force first proposed the GST concept in 2004. After much debate, GST was eventually put into effect in July 2017 and is currently recognised as India's most significant tax reform since the country gained its independence in 1947. The main reason for the construction of GST was to replace all indirect taxes in India, including Central Excise Tax, VAT/Sales Tax, Service Tax, and others with a single taxation structure. The GST-based taxation system promotes tax transparency, boosts GDP from 1% to 2%, and decreases tax evasion and corruption in the nation. Singh and Nayyar (2018).

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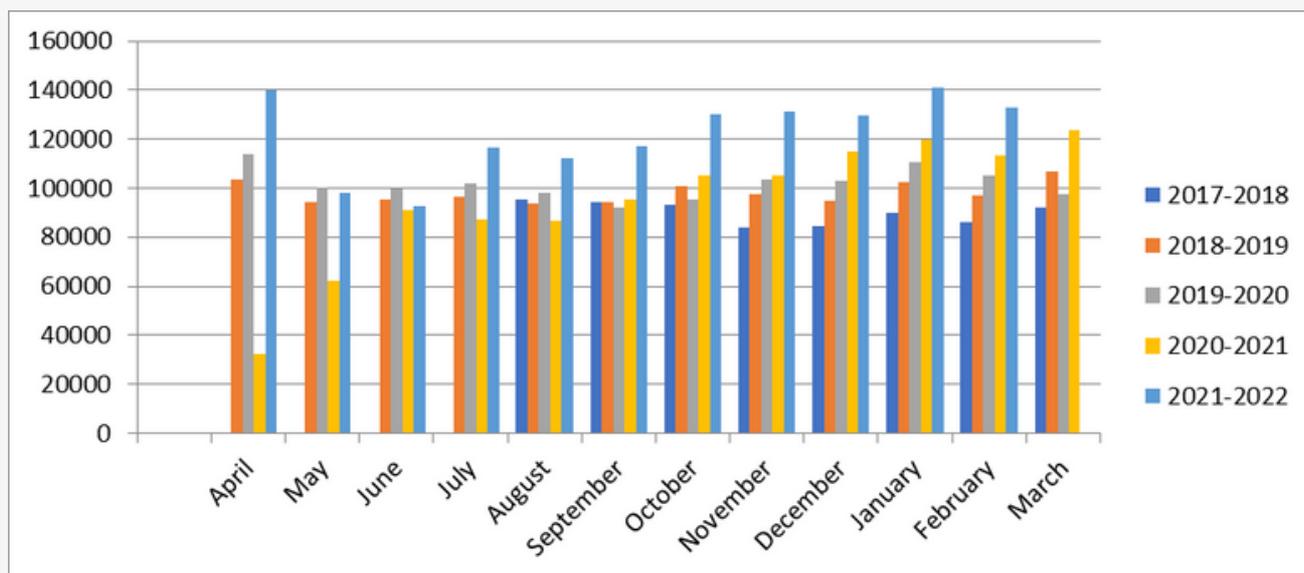
### ASSESSMENT OF DATA AND FINDINGS

The Goods and Services Tax, or GST, is an indirect tax that has largely superseded other indirect taxes in India, including the excise tax, value-added tax, services tax, and others. It is assessed on the provision of goods and services in India. Every value addition is subject to a thorough, multistage, destination-based tax. The entire nation is governed by a single domestic indirect tax code. The tax is collected at every point of sale under the GST system. While both the Central GST and the State GST are applied to intra-state sales, the Integrated GST is applied to all inter-state sales.

The primary goal of the GST has been to eliminate the cascading effect on the sale of goods and services. Only the net value added at each stage of the supply chain is taxed under the GST system. As a result, taxes no longer have a cascading impact, and credit is now flowing smoothly for both commodities and services.

GST collection was incredibly slow during the worst part of the pandemic. Monthly GST collection quickly rebounded after declining in 2020–21 amid the statewide shutdown and the second Covid wave. GST collection uncertainty has increased as a result of the ongoing COVID-19 outbreak. The amount of money collected by governments around the world has decreased as a result. According to a report by Union Minister of State for Finance Shri Pankaj Chaudhary, the gross GST collection in the post-pandemic fiscal year 2021–22 showed an upward trend in contrast to the years before. In an effort to demonstrate the effect of COVID-19 on GST collections in India, we have attempted to compile month-by-month and year-by-year numbers of GST Collections from FY 2017-2018 to FY 2021-2022.

Interpretations: It is evident from the data that GST gross collections have increased by about 300% from the previous year to the current year, and that net collections have increased by about the same amount (about 27.29% last year, around 67.93% this year). At the same time, however, refunds have decreased from the previous year to the current years.



GST collections by month and year in India are shown in Chart 1.

We can see from the data above that the GST revenue suffered a significant decline and uneven distribution following the announcement of the lockdown in 2020–21. The pandemic has also had a profoundly negative and severely disruptive impact on the Indian economy. March 2020 saw the first Covid 19 case reported in India, and that same month saw the announcement of the lockdown. Despite the lockdown order, India experienced an increase in daily cases of COVID, which signalled the start of the Covid-19 pandemic's first wave, which lasted until February 2021. The state governments' budgets were put under pressure during this recession as a result of declining revenues and rising spending demands. (Veuger & Clemens, 2020).

Assam's first case of the Covid-19 was confirmed on March 31, 2020, while the first case in the Northeast was discovered on March 24, 2020, in a student from Manipur who was returning from the UK. Arunachal Pradesh, Assam, and other states in the region's north-east make up the region.

According to the Minister, the GST compensation cess collected under Section 8 of the GST (Compensation to States) Act, 2017, is transferred into the GST Compensation Fund, a non-lapsable fund that is a part of the Public Account of India as specified in Section 10(1) of the Act. For a period of five years, the Compensation Fund will pay the states for any revenue losses brought on by the implementation of the GST. For the fiscal years 2017–18, 2018–19, and 2019–20, the states have already received their GST compensation. But because of lower GST collection and concurrently lower GST compensation cess collection in India, the economic impact of the pandemic had resulted in higher compensation requirements.

According to official sources, the GST Compensation Fund did not have enough money to cover the full compensation requirement, so RS 1,30,464 crore was released to all states and UTs to partially cover the compensation payable for the period from April 20 to March 21. The GST Council discussed this issue of a shortfall in the release of GST compensation, and as a result, the Centre borrowed a loan of Rs. 1.1 lakh crore from the open market and disbursed it as back-to-back loans to States and Union Territories to fill their resource gap caused by the short release of GST Compensation for the Financial Year 2020–21.

The following table details the GST compensation that has been released or is scheduled to be released (as of November 24, 2021) to India's north-eastern states (in Rs. Crore)

### CONCLUSIONS

By incorporating more central and state taxes into the GST and gradually eliminating the CST, as well as by expanding the scope of input tax set-off and service tax-off, the GST will benefit trade, agriculture, and industries. The GST burden is transparent, and systems operate in a chain-like fashion, which will result in a wider tax base and better tax compliance, which may also result in a reduction of the tax burden on various tax payers, dealers, industries, trade, and agriculture. The main federal and state taxes are combined under the GST. The price of locally produced goods and services would decrease as a result of the complete and thorough setoff of the ITC (Input Tax System) and the gradual phaseout of the CST (Central Sales System). From this endeavour, the value of Indian Goods and services are boosted in worldwide market and its improve the Indian exports. Same influence on North-Eastern Indian states like Assam, Sikkim, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Tripura and Nagaland etc. All the states contribute same amount of effort and contribution in the name of GST collection etc. But few states GST revenue is much higher than other states of India and it will increase year by year. Assam is the one of the main state from north-eastern states, which collects highest GST and Mizoram was lowest as compare from other states.

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- <https://www.researchgate.net/publication/354497139> GST Unlocks Strong Revenue Potential of India%27s North Eastern States
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## **CHAPTER 14**

# **ROLE OF EMPLOYEE ENGAGEMENT IN THE RELATIONSHIP BETWEEN EMPLOYEE CYNICISM AND EMPLOYEE PERFORMANCE: POST COVID IMPACT ON THE EDUCATIONAL SECTOR**

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### Introduction

The COVID-19 pandemic had a profound impact on the education sector in India, leading to widespread disruptions in the way schools and universities operate. One of the key challenges that has emerged in this context is the issue of employee cynicism, which can have a significant impact on employee performance and overall organizational effectiveness. In this chapter, we will explore the concept of employee cynicism, its causes and effects, and the role of leadership traits in addressing this issue in the education sector post-COVID-19 crisis in India. In today's rapidly changing business environment, organizations must focus on creating positive work environments that encourage employees to perform at their best. Employee cynicism, coworker relations, and employee performance are all critical factors that can significantly impact organizational outcomes. Employee cynicism is defined as a negative attitude toward work and the organization, while coworker relations refer to the relationship employees have with one another. Employee performance is a critical aspect of organizational success and is closely related to employee engagement and motivation.

### Employee Cynicism

Employee cynicism is a negative attitude or mindset characterized by a lack of trust and belief in the effectiveness of one's organization and its leaders. It is often associated with feelings of frustration, disappointment, and a sense of powerlessness among employees. This can manifest in a variety of ways, such as a lack of motivation, low engagement, and poor job performance. Cynicism was coined by two philosophers – Antisthenes, disciple of Socrates and Diogenes Laertius.

Employee engagement has been recognized as an important factor in organizational success and has been linked to a variety of positive outcomes, including increased job satisfaction, reduced turnover, and improved performance. Any discrepancy between job role & task reality may lead to dissatisfaction and create a negative work behaviour. Cynic attitude creeps in when employees believe an ambiguity in management ethics and deeds. The COVID-19 crisis has had a significant impact on the education sector in India, with schools and universities shutting down and transitioning to online learning. This has led to increased stress and uncertainty for educators, and it is likely that employee engagement levels have been affected.

Employee retention has gained major attention in the current scenario, where it is considered as a cost effective tool but on the other hand suffers from withdrawal behaviour of employees like negative organisational citizenship behaviour, coming late to workplace, absenteeism, day-dreaming, receding sustenance attitude and concised performance behaviour

### Causes of Employee Cynicism

There are a number of factors that can contribute to the development of employee cynicism, including:

- **Lack of communication and transparency from leaders:** When employees feel that they are not being kept informed about important decisions or changes within the organization, they may become skeptical and distrustful of their leaders.
- **Inconsistency between actions and words:** If leaders make promises but do not follow through on them, employees may begin to question their integrity and lose trust in them.
- **Lack of opportunities for employee input and participation:** When employees feel that their opinions and ideas are not valued or taken into consideration, they may become disengaged and cynical.

### Effects of Employee Cynicism

Employee cynicism can have a number of negative effects on an organization, including:

- **Reduced employee productivity and performance:** When employees are cynical, they may be less motivated and engaged in their work, leading to a decline in productivity and performance.
- **Increased turnover:** Employees who are cynical may be more likely to leave the organization in search of a more positive work environment.

- Reduced organizational effectiveness: When employees are cynical, they may be less likely to collaborate and work effectively with their colleagues, which can negatively impact the overall effectiveness of the organization.

### Role of Leadership Traits in Addressing Employee Cynicism

Leadership traits play a crucial role in addressing employee cynicism, particularly in the education sector post-COVID-19 crisis in India. Leadership traits, such as transformational leadership and emotional intelligence, have been identified as potential mediators of the relationship between organizational cynicism and employee engagement. Transformational leaders are those who inspire and motivate employees to work towards a common goal, while emotionally intelligent leaders are able to understand and manage their own emotions and those of their employees. These traits have been found to be positively associated with employee engagement.

Recent studies have found that Indian educators have been negatively affected by the COVID-19 crisis, with increased stress and anxiety being reported. A study by Gangopadhyay and Dey (2020) found that Indian school teachers had lower levels of job satisfaction, and higher levels of burnout and cynicism, compared to pre-COVID-19 levels. Another study by Sharma and Singh (2021) found that Indian college teachers were facing difficulties in adjusting to online teaching and reported feeling more stressed and less engaged than before the crisis.

A study by Saini and Singh (2021) found that transformational leadership can act as a buffer against the negative effects of organizational cynicism on employee engagement in the Indian education sector post-COVID-19 crisis. The study found that when teachers perceived their leaders as being more transformational, they were less likely to hold negative views of the organization and more likely to report higher levels of engagement. Some leadership traits that can be effective in addressing employee cynicism include:

- Transparency and honesty: Leaders who are transparent and honest in their communication with employees can help to build trust and reduce cynicism.
- Consistency: Leaders who follow through on their commitments and actions can help to reduce cynicism by demonstrating integrity and reliability.
- Empowerment: Leaders who empower employees to participate in decision-making and contribute their ideas can help to reduce cynicism by fostering a sense of ownership and engagement among employees.
- Empathy: Leaders who show empathy and understanding towards their employees' concerns can help to reduce cynicism by demonstrating that they care about their well-being.

### Conclusion

The COVID-19 pandemic has brought about significant challenges for the education sector in India, including the issue of employee cynicism. Employee cynicism can have a negative impact on employee performance and overall organizational effectiveness, and it is important for leaders to understand the causes and effects of this issue. By utilizing leadership traits such as transparency, consistency, empowerment, and empathy, leaders can help to address employee cynicism and foster a more positive and productive work environment in the education sector post-COVID-19 crisis in India.

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## CHAPTER 15

# THE INFLUENCE THAT COVID WILL HAVE ON THE EDUCATIONAL SECTOR

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### INTRODUCTION

The Covid-19 pandemic is by far the most serious health emergency. The global pandemic-related lockdowns have had a negative impact on many significant sectors, including the EDUCATION SECTOR. Numerous schools, colleges, and institutions had to abruptly close due to the pandemic.

The pupils were exposed to online learning during a brief period of time. The learning of the youngsters from low-income homes was harmed by the abrupt switch from classroom instruction to digital learning. Because they could not afford smart phones, laptops, or computers, wi-fi and other technologies quickly became an issue for them.

Every school and university has developed an online curriculum structure for regular teaching and learning, and many regular and competitive examinations have also been changed, postponed, or cancelled. The requirement for pupils to be proficient with technology and online platforms has also expanded as a result. Online education has led to a digital divide between wealthy and poor students.

Because they had poor or no internet connectivity, the majority of students from remote locations were unable to explore online learning. This abrupt change caused a number of mental health issues, including despair, anxiety, and stress, among the pupils. Due to the shutdown, pupils who were attending school in order to receive meals (via the Mid-Day Meal Scheme) are no longer able to do so.

Although there were parents who were uneducated and also helpless to aid their children in learning, the educated parents were able to encourage their kids throughout the epidemic in their academic endeavours.

Many people have been impacted by education, however as a result of this pandemic, the majority of female students have left school, citing the opportunity and financial costs of doing so.

Not only have children been impacted by the pandemic, but also low-income schools and institutions, which led to their closure.

The unfortunate reality is that not everyone has access to these new methods of education delivery or virtual connections between teachers and students through online classrooms, webinars, digital assessments, etc.

Everything was done with the students' health and ability to stay at home unaffected by this potentially fatal infection in mind.

We weren't ready for this, but it happened, so now we all have to deal with it. If a pandemic strikes again in the future, we should consider and implement measures to ensure that every child has access to education in order to help the next generation.

### A FEW OF THE COVID-19'S KEY POSITIVE IMPACTS ON EDUCATION-

1. All academic institutions use a blended learning approach to instruction.
2. In online learning, students were better able to manage their time.
3. Online classes have no sense of back benches.
4. As several tasks and presentations were required as part of the students' evaluation, they were able to pick up new computer abilities.
5. There is no cap on the number of pupils who can learn at once.
6. Made it possible for self-study and aided pupils in conducting a more thorough analysis of what they had been taught.
7. Students who struggled with a particular subject could view similar videos on YouTube and other online sites.

Some of the key negative effects of COVID-19 on education include:

1. There was little to no internet connection for students in many remote places.
2. The use of online education and learning has widened the gap between the urban and rural poor and the wealthy.
3. The abrupt and novel switch caught both teachers and students off guard.
4. A lot of colleges and universities were halted and shuttered.
5. Various boards delayed or altered the format of the annual examination and entrance exam, confusing the students.

Global education sectors have faced considerable hurdles as a result of lockdowns to stop the COVID-19 outbreak, and India is no exception. Unprecedented effects of the COVID-19 epidemic and the subsequent shutdown to stop its spread were felt in the education sector. In addition to disrupting an academic year and reducing career options, the pandemic changed the traditional chalk-and-talk teaching model into a technology-driven one.

There were many challenges when online learning suddenly replaced traditional classroom instruction. While the top and upper-middle class segments and city dwellers have adapted technology without trouble, the lower middle class segments and rural people have found it challenging to do so. They were unable to adopt technology for a variety of reasons, chief among them being budgetary limitations and parents' lack of technical expertise. The majority of rural and underdeveloped areas lack access to smartphones. One of the major problems these students encounter is poor audio quality and bad connectivity caused by slow data speeds, which prevent video classes from operating. The majority of these kids lack dependable, regular access to the internet. Also lacking are desktop computers and laptops at home. In addition to these technical problems, there are health issues to address. Constant exposure to smartphones results in eye strain, retinal degeneration, and mental fog. Stress brought on by extended use of electronic devices is one of the other health problems.

The ground truth is that the Indian internet infrastructure is still very far from being prepared to accommodate the transformation, even though the Covid-19 has made online education the rage and the new norm. Only 24% of homes have internet connectivity, according to a 2019 government poll. Only 4% of people in rural India have internet connectivity, a much lower percentage than the national average. Numerous remote homes don't even have constant access to electricity service. The pupils from poor groups are becoming alienated by this concentration on technology-driven schooling. The majority of teachers are frequently found to be untrained and unprepared to handle this shift from traditional classroom instruction to online learning.

It was difficult for students pursuing professional and technical courses to keep up with the curriculum. Virtual interaction was replaced by actual interaction with lecturers. Because of the lack of individualised feedback, learning has become tedious, uninspiring, and demotivating.

To prevent another situation when a lockdown or curfew causes educational institutions to close, specific steps are urgently needed. It is true that a multifaceted approach is required to navigate the crisis and, in the long run, create a resilient education system:

To facilitate the seamless operation of online classes, teachers should utilise open-source learning solutions and learning management systems. The strength of online learning platforms should be increased so that they are accessible to all States and Union Territories.

Two, the Central and State governments must increase education investment if the Indian educational system is to transition to online learning without widening the digital divide. The allocation for the education sector is now less than 3%. It should at least be doubled.

Three, inclusive learning strategies must be created, particularly for the disadvantaged and vulnerable groups. Personalization of education is achievable in the most remote areas of the nation because to a tremendous rise in mobile internet users (one study predicts that by 2024, mobile internet would be accessible to 85% of Indian homes). The efficiency of teaching and learning will improve.

Four, it is crucial to integrate traditional classroom instruction with online learning platforms in educational institutions. As a result, a single learning system will be developed. The seamless integration of technology into India's current educational system presents a substantial barrier for national educational technology changes.

Five: Indian traditional knowledge is renowned throughout the world for its scientific inventions, ideals, and advantages in the development of environmentally friendly technology and medications. To further the greater good of humanity, the study of yoga, Indian remedies, architecture, hydraulics, metallurgy, and agriculture should be incorporated into the current university curriculum.

The COVID-19 pandemic and the lockdowns may have a long-term negative impact on India's educational system. Reforms are necessary to ensure that pupils do not suffer any academic losses in order to stop this. Many young and gifted students' goals will be dashed by prolonged and unanticipated interruptions. Additionally, a prolonged lockdown may cause a large number of disadvantaged youngsters to drop out of school and institutions, leaving the nation with a workforce that is less educated. To ensure that a similar situation as last year does not occur, the vital coordination between the governmental sector, private sector and civil society organisations cannot be overemphasised upon.

### CONCLUSION

Covid-19 has impacted enormously the education component sector of India. Though technology has caused many obstacles, various opportunities are also evolved. The Indian Govt. and diverse stakeholders of education have studied the prospect of Open and Distance learning by employing different digital technologies to cope up with the existing situation of COVID-19. India is not fully ready to make education reach all parts of the nation via digital channels.

The kids who aren't privileged like the others would suffer due to the present choice of digital platforms. The objective should be to employ digital technology to establish an advantageous position for millions of young students in India.

It is necessary of the hour for the educational institutions to develop their knowledge and information technology infrastructure to be ready for tackling COVID-19 such situations.

Even if the COVID-19 problem runs further, there is an urgent need to take measures on optimum utilisation of internet platforms. India should come up with innovative plans to guarantee that all kids would have ongoing access to education during the COVID-19 pandemic.

**CHAPTER 16**  
**UNDERSTANDING SUSTAINABLE HRM**  
**EMPLOYABILITY SKILLS AMONG THE MANAGEMENT**  
**STUDENTS WITH SPECIAL REFERENCE TO**  
**MANAGEMENT INSTITUTES IN PUNE.**

**Dr. Sujata Umesh Bolake &  
Prof. Shannon Vinay Wagh**

**ABSTRACT:**

In 2015, the first integrated National Policy for Skill Development and Entrepreneurship was approved by the Union Cabinet chaired by Prime Minister Shri Narendra Modi. This Policy highlights and recognizes the need for compelling guidelines in developing Entrepreneurship as the main factor for a successful skill gameplan. Policy makers in skill development like AICTE(All India Council for Technical Education),ILO (International Labor Organization)and forums such as ASSOCHEM (Associated Chambers of Commerce and Industry of India), Placid over the matters the way an employee could be trained successfully as a performer and to abstain from extra commitments without having to go through mental stress and develop personality to lead a respectable life.

**KEYWORDS:** Employability Skills, learning skills, social-emotional skills, Employers Expectation, Skill Development.

### INTRODUCTION

Enhancing Graduate Employability skills is considered as an important task In the growing and competing world of employability, it's easy to find that organized, structured work experience is considered a higher priority and organization's engagement in course structure design and delivery have precise and clear positive impacts on the ability of graduates to secure employment in entry of graduate-level jobs. Enhancing Graduate Employability skills is considered as an important tool within the education curriculum thus the involvement of the department in categorical learning, teaching and assessment methods of employability skills is not symbolically related to labor market performance. Hence this article highlights the study of employability skills in the competent market with specific mention of industries and universities in Pune division.

Let us start by defining Employability Skills. Employability skills can be defined as the transferable skills needed by an individual to make them employable. Along with good technical understanding and subject knowledge, employers often outline a set of skills that they want from an employee. Rothwell and Arnold (2007) defined employability skills as the ability to survive in a job. Kearns (2001) has listed employability skills as: i) the availability of work and individual work capacity, ii) knowledge in entrepreneurship, iii) the creative and innovative, interpersonal skills and iv) thinking and a willingness to learn. Yorke and Knight (2003) define employability as a —A set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

Employability to a large extent relies on the knowledge, skills and attitudes of the graduate and how he/she uses these skills and converts them into marketable assets and presents them to potential employers as the labor market needs and the employers requirements skills from graduates vary by employer. It would be of importance to consider few of the skills. Communication and interpersonal skills, Problem solving skills. Using your initiative and being self-motivated, showing a strong personal drive and not waiting to be told to do things. Working under pressure and meeting the deadlines. Also Team working and ability to learn and adapt and be enthusiastic about and negotiation skills to achieve a win-win outcome. The present scenario of changing business environments puts the focus on the importance of education for employability, focusing on the development of not only skills but also practical experience.

Boosting employability skills of the graduates is not a new topic and policy makers are still making plans to increase graduates skills to meet the need of the current working force. Higher education Institutions are one of key artist in remodeling employability and their responsibility to identify how they can enhance skills of the future workforce

## OBJECTIVES OF THE STUDY:

- To find the relationship between the Employability Skills and Learning Strategies.
- To study the significance of Social & Emotional Skills among management students in their professional career.
- To study the role of employability skills in the corporate sector at the time of employment.

## HYPOTHESES FORMULATION :

- There is no significant relationship between Employability and Learning Strategies.
- There is no significant relationship between Employability skills and recruitment.

Research topic	Researcher Name	Research Objectives	Findings
Measurement Model of Employability Skills Using Confirmatory Factor Analysis	Mohd Yusof, H.a.*, Ramlee Mustaphab, Syed A. Malik Syed Mohamadc, Seri Bunian, Md	to measure the level of employability skills determine which skills important for graduates	<p>The findings showed that graduates' employability skills were at a moderate level. The findings also showed that employers were not satisfied with graduates' employability skills.</p> <p>Besides, Mohamad Sattar (2010) studied the employability skills of technical graduates. The respondents involved in his study were 327 polytechnic graduates and 107 employers from the manufacturing industry.</p>

Research topic	Researcher Name	Research Objectives	Findings
<p>Importance of Employability Skills in Information Technology Multinational Corporations.</p>	<p>Anjani Srikanth Koka et al. (2015)</p>	<p>Study was investigating whether the engineering students were able to identify the attributes which the employers sought.</p>	<p>The findings that major factors are engineering graduates found it difficult to pursue employment upon graduation as they lack employability skills. The study concluded that the engineering institutions get a broad view of the needs of IT, MNCs in terms of employability skills and in turn prepare their students so as to acquire better employability skills. Considering the fact that the global demand for soft skills have increased significantly, it was now necessary for engineering students to equip themselves with the adequate Soft-skills besides acquiring academic and technical knowledge.</p>

Research topic	Researcher Name	Research Objectives	Findings
<p>Perceived Effects of MBA Degree on Skills Development and Career Advancement: The Case of Pakistan.</p>	<p>Ayesha Saba, Babak Mahmoo, Aroosa Khalid &amp; Sumaira Aslam 2015</p>	<p>the aim of this study was to access the business management education at graduate level in Pakistan and was helpful in making successful managers.</p>	<p>The statistical tools used were the chi-square test. The findings revealed that the major factors were instance stress management, effective communication, time management, interpersonal skills, self-confidence, and analytical skills. MBA's have diversified skills and they get better chances of being promoted and being employed. The study concluded that the Pakistan MBA's are also like other countries' MBA's and they were attesting themselves as better managers for business organizations because these personnel are stronger than the other professionals.</p>

Research topic	Researcher Name	Research Objectives	Findings
<p>Employability Skill Among Professionals – Chagrin of HR Executives in Indian Labor Market: A Study on Engineering Graduates of Bhopal. City</p>	<p>Divya Shukla 2012</p>	<p>The objective of the study was to identify the level of employability skill among the students.</p>	<p>The differences based on the respondents' demographic details and to facilitate the suggestive measure in this regard, T-test was used. The study concluded that the redesigning of the university curriculum with more apprenticeship and live industry projects will facilitate the pre job training which will surely enhance the employability among the graduates.</p>
<p>The Role of Numeracy Skills in Graduate Employability</p>	<p>Durrani ,Naureen,; Tariq and Vicki, (2014).</p>	<p>The purpose of the study was to explore the role and importance of numeracy skills in graduate recruitment within a diversity of employment sectors</p>	<p>The finding of the study revealed that, the employers attach to graduates' numeracy skills and the extent to which employers used numeracy tests in graduate recruitment. The study suggested that many employers seek graduates with particular kinds and levels of numeracy skills and that many test the possession of the latter via their recruitment procedures.</p>

	Research topic	Research er Name	Research Objectives	Findings
	Employability Skill: A Literature Review.	Gowsalya and Ashok Kumar (2015)	The objectives of the study was to identify employability skill of final year MBA Graduates and to find the factors of employability skills for them	Four independent Factors have been identified to make a significant impact on the employability skills of management graduates. From the study, they are learning Self-understanding, General Management, and work culture, Leadership skills and Computer skills. The study concludes that the institutes should work on the path to develop the above said factors of graduates that will best serve the future era.
	A study on Employability Skills among final year MBA Graduates in Coimbatore city	Gowsalya and Ashok Kumar (2015)	The study investigated the existing literature in the field of Employability skill prevailing in India.	The focus of the literature survey was to review these employability skills like analytical skills, self-understanding, general management and work culture, leadership and problem solving ability and communication. The employability skill analyzed in this literature survey included MBA graduates, Engineering graduates as well as the University students also ranked in the employability skill of the respondents who were in a need to improve the existing district. Being good at one skill cannot facilitate competency in the other. The study concluded that, the recent day scenario is that the applicant who is multitasking can sustain

## DATA COLLECTION METHODS & INSTRUMENTS

### Data Collection Method

a. Primary Data Collection: The primary data collected from these Selected Education Institutes in Pune from official sources.

The following methods are used to collect the data.

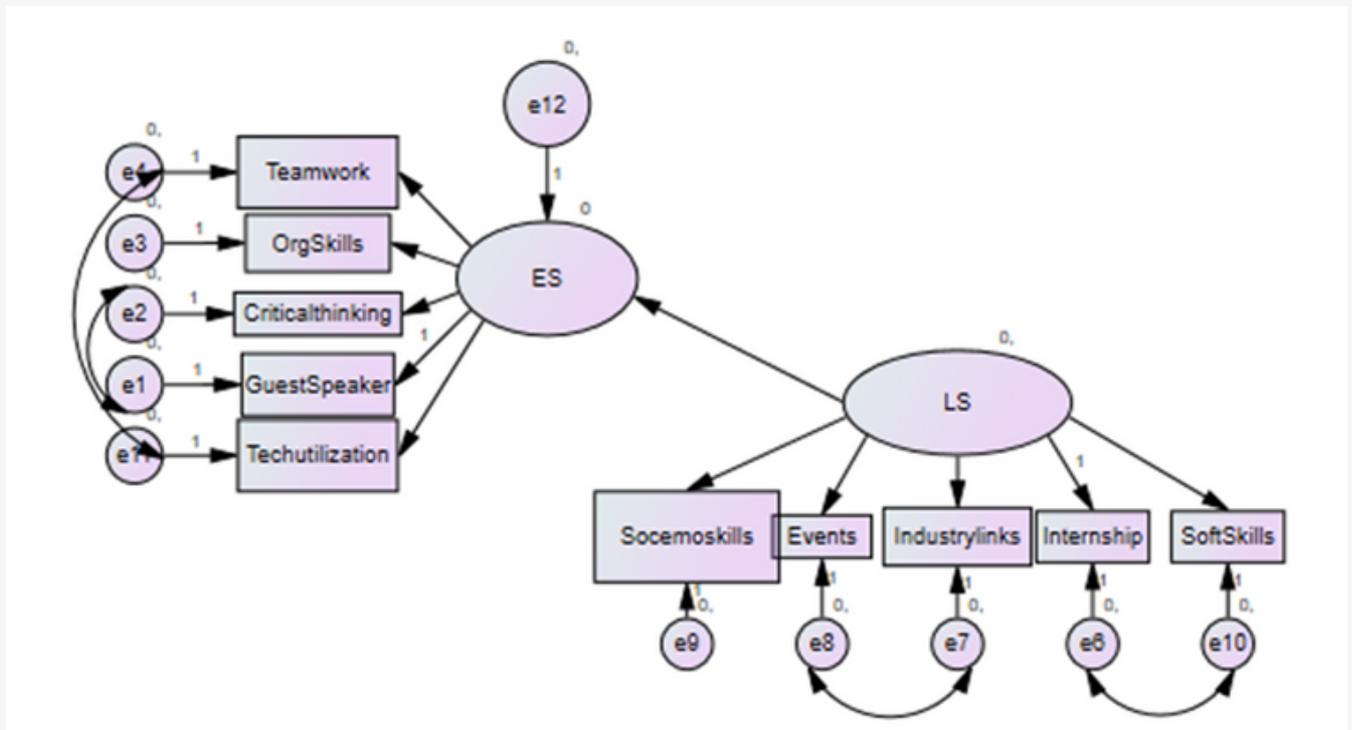
1. Questionnaire
2. Personal discussions
3. Interviews

b. Secondary data collected from relevant information sources such as: i. Published material, books, etc. ii. Information from Library iii. Policy Documents and records iv. Internet, etc.

### SAMPLING DESIGN:

- Sampling Method: Non-Probability Sampling
- Sample Type: Convenient Sampling

### Structural Equation Modeling



**DISCUSSION**

The researchers have discussed the research type, research method, research approach, sample size and population, method of data collection, sampling design and statistical tools for data analysis, etc. in the previous chapter of Research Methodology.

This paper reports on a study carried out to validate the employability skills (ES) measurement model for Management students. A total of 250 respondents were involved in this research.

Data were analyzed descriptively for reliability (Cronbach Alpha values) and confirmatory factor analysis was utilized in order to find measurement models for each of the constructs using AMOS software.

Hypothesis 1 : There is no significant relationship between Employability and Learning Strategies

Details	Chi Square Result
Chi - Square	65.95775
DF	4
Critical Value	9.488

From the table above we can observe that the value of chi square value is 65.958 and its corresponding critical value is 9.488. Since the critical value is less than 65.958, hence the hypothesis is REJECTED.

Details	Chi Square Result
Chi - Square	113.6338
DF	4
Critical Value	9.488

Hypothesis 2 : There is no significant relationship between Employability skills and recruitment.

From the table above we can observe that the value of chi square value is 113.6338 and its corresponding critical value is 9.488. Since the critical value is less than 113.6338, the hypothesis is REJECTED.

### CONCLUSION

After the above analysis and a comprehensive study, we have arrived at this conclusion that employability skills are very significant in this changing business world. Students need to equip themselves with the knowledge required in industry. This study concludes that employers and HR managers are giving vital importance to the skills of students for their knowledge, aptitude, skill and placement in business organization.

### Acknowledgment

With deep gratitude we thank all the respondents to our survey questionnaire during the Covid-19 Pandemic Period.

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## **CHAPTER 17**

# **A PANDEMIC REVOLUTION IN EDUCATIONAL TECHNOLOGY**

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### INTRODUCTION

Due to the widespread spread of Corona and the stringent quarantine restrictions, many institutions and individuals have shifted their courses and study halls online. However, despite the increasing popularity of online education, it has not yet had the revolutionary effect that was anticipated. The lessons learned from this incident could lead to enhanced online education in the future. We examine the present economic crisis the firms can adapt their business models to fit the needs of their customers when the market and their customers' wants change. Also, by looking at how people use EdTech solutions, they may be able to improve them in a way that will last.

Keywords: Pandemic, EdTech, Start-ups, Business Model, sustainability, digital learning, blended learning

### EDTECH OR EDUCATION TECHNOLOGY

"Education technology" (EdTech) refers to all the technology tools that can be employed in a classroom or for tutoring. Computers, software, the Internet, and administrative services are included. Cloud-based platforms, LMSs, and content delivery systems are examples. There are also mobile and desktop learning apps, online program administration tools, digital content, and stakeholder communication platforms. Digital pupils need active learning, not dumb memorization. Active learning involves pupils analysing and applying their knowledge. Edtech will help institutions "move the focus away from grade-oriented education systems" a "digital eco-system in conjunction with the traditional learning methods" to offer more educational options interested young pupils. Exciting! (PwC & CII, 2021).

"Educational technology" (edtech) can improve educational institutions' digital management and student services. (Teräs et al., 2020a) The Indian educational technology sector has over 4,000 enterprises; therefore, they face a lot of competition. To thrive, these EdTech start-ups must engage heavily in digital marketing. Lacking difference and diversity, they are harder to enrol students in. In 30 days, Edtech companies grew 37%, according to a May 2020 business story. Between April 2019 and February 2020, daily registered visitors rose from 3.4 million to 4.6 million. 2020 Business Insider Since 2016, "Startup India," a government program that invests in new Indian enterprises, has helped over 60,000 companies and created over 0.6 million jobs. The top Indian financial figures show that Edtech companies provide 7% of the entire capital pool, third after transportation and healthcare. (Teräs et al., 2020b) Healthcare (9%) and information technology/services (13%). Hloni Trends found that Indian tech businesses should offer more products. Most of them stick to K-12 and standardized test prep.

### REVIEW OF LITERATURE

As education becomes increasingly perceived as a commodity on the market, there is a rise in the number of business owners who are interested in the vast prospects presented by EdTech platforms. A rising forward-thinking entrepreneurs are attempting to capitalize on it in every way they can think of. After the COVID-19 epidemic, there is no question that there has been an increase in the (Choudhary, 2022) . The increasing presence of Edtech companies in the education sector is indicative of a cultural and discursive shift in response to the dominant market forces in the industry. The expansion of the education technology sector is also gradually bringing the culture of Silicon Valley and the high-tech corporate discourse closer to the centre (Williamson, 2017). This can be found in all three of these authors' works. Edtech space is controlled by innovation, scalability, (Ulanova, 2021) acceleration, and value for money, which is a systematic transformation that started working towards the Edtech entrepreneurs as steady funding started pouring after the COVID-19 pandemic.

### OBJECTIVE

1. What did COVID-19 do to the company's business model?
2. Analyse the factors that influence the long-term success of Ed-tech companies in the post-covid era

### EXPANSION OF THE EDUCATIONAL TECHNOLOGY SECTOR

In light of this pandemic, many EdTech companies are making their digital solutions for education accessible at no cost or at a greatly reduced price. Online learners can reap the benefits of both interpersonal connection and tangible outcomes. As a result, this is a fantastic chance for EdTech companies to improve their current market standing. Although the EdTech industry is forecast to be valued at USD 8 trillion by 2020, its growth is anticipated to be significantly slower than that of other markets due to the dynamics of digital transformation. This industry has grown more slowly than others due to the involvement of many different groups, including educators, teachers, traditional textbook publishers, and legislators [Renz, Krishnaraja, & Gronau, 2020; EdTech Global, 2016]. When it comes to the introduction of new educational practices, Concerns and phobias, insufficient funding for IT equipment, and a lack of understanding the applications can all be eliminated or greatly reduced thanks to the current efforts of EdTech firms. However, whether or not other challenges.

### USING TECHNOLOGY IN EDUCATION AFTER THE COVID-19 PANDEMIC

Because of the pandemic, educational institutions in India had to temporarily close. The majority of educational institutions, even some that receive public funding, lack the resources necessary to adequately support online education. The mentality of the population was altered by the COVID-19 epidemic. (Renz et al., 2020) From the first week of the lockdown in 2020 due to the COVID-19 outbreak, edtech platforms swung. The number of registered users skyrocketed, as did the amount of time students and educators spent online. App-based learning gained widespread popularity during the COVID-19 era, when it was used by millions of people for the first time. The long-term repercussions of young people's exposure to online education provided via EdTech platforms are cause for concern. (Agrawal et al., 2010; Antonenko et al., 2014) The idea of home-schooling caught many parents by surprise. They, too, were juggling long periods of working from home (WFH). The chasm between the wealthy and the poor was laid bare as the crisis worsened in several universities. Because traditional classroom instruction had been the only available option for so long, teacher educators were slow to embrace the shift.

### GOVERNING BODIES BACKING THE IMPLEMENTATION OF DIGITAL LEARNING

The country are two of the primary goals of the Indian government's digital agenda, which has resulted in a number of recent initiatives. The National Education Policy, 2020, discusses these aims. (Crowdfunding: Tapping the Right Crowd by Paul Belleflamme, Thomas Lambert, Armin Schwienbacher:: SSRN, n.d.; Macht & Weatherston, 2014) Institutional academic and program offerings are prioritized in the 2020 National Education Policy (NEP) (Mattsson & Andersson, 2019; Ramiel, 2019). In order to realize its full potential, educational technology must be more deeply embedded in the structure of the higher education system. New, more efficient models for educational program administration, material distribution, and user engagement are all conceivable thanks to the New Education Paradigm 2020. (NEP, 2020).

### CONCLUSION AND FUTURE RESEARCH

Corporate growth and innovation may be hampered by the Corona crisis. The market says companies will make quick, customer-focused improvements. Edtech buyers value adaptability [Renz, 2020]. Researchers will make intriguing discoveries. Digital business models may demand data-enhanced and data-driven models. (Ramiel, 2020; Williamson, 2021) LA and AI-based EdTech will accelerate. Thus, new business models and EdTech apps can be enhanced. Hyper-personalized EdTech apps offer deeper individual connection and learning. Technology is only as excellent as its usability. LMS data aids pupils. LA may aid learning [Gaevi, Dawson, & Siemens, 2015]. Despite technology, traditional teaching approaches are still preferred. EdTech couldn't get student data, hindering creativity. Digital platforms will help businesses and educators adapt. Instructors and institutions benefit from online learning's flexibility and innovation. Education's digitalization efforts are recognized. Online and digital learning in India can solve access and equality challenges. Parental and digital native approval Edtech platforms offer flexible, affordable, and high-quality learning. (Hughes & Hughes, 2019; Learning Across Boundaries: Educator and Startup Involvement in the Educational Technology Innovation Ecosystem - Learning & Technology Library (LearnTechLib), n.d.) Learning places will be digital. Edtech can help the government and society close the education-learner gap. Udemy and Coursera use the epidemic to leverage higher education. Worker and corporate Edtech certification will likely increase. Edtech demand will boost the economy and create jobs.

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## **CHAPTER 18**

# **GROWTH OF EDUCATIONAL SYSTEM AFTER THE COVID 19 EPIDEMIC**

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### Introduction

The Covid-19 epidemic has transformed the educational system. Study how the Covid-19 pandemic has altered the usage of teachers and technology. The current pandemic has tested each individual in some way. Whoever has witnessed the Covid-19 pandemic, be it medical experts, the executive branch, the police, or anyone else, must take precautions. Every organisation has had to develop independently in order to remain profitable and advance. This also applies to the sphere of education. The closing of schools and colleges has also generated substantial disruption in this business. More than 190 countries and about 1.6 billion pupils have been affected by the pandemic. Globally, 94% of students have been affected by school and college closures, with that percentage rising up to 99% in low- and lower-middle-income countries. More than 32 billion students have been affected by the closures in India alone. Not only are the statistics frightening, but younger minds have also had to adapt to new teaching techniques.

Invisible Corona Warrior: Our schools and colleges' teachers

As a result of the Covid 19 outbreak, which compelled the nation to close its borders to prevent the corona virus from spreading, people's lives have been disturbed. Several "Corona Warriors" go above and above to combat the epidemic. Everyone deserves our admiration and respect. Our teaching community incorporates all "Corona Warriors." The teaching profession is one in which the nation takes tremendous pride. Instructors have accepted the existing situation and utilised it as an opportunity for personal growth. Our instructors have been exceptional, embracing this unique approach to online education with zeal, commitment, and creativity. In addition to managing their own families, teachers are also developing online courses. When more schools across the country implement distance learning, the demands on teachers' schedules increase at a rate comparable to the corona virus.

According to the majority of educators, time management is a persistent concern. While the institution is under lockdown, the number of compulsory meetings and training sessions increases. Burnout is a consequence of these demands taking more personal time than in the past. In contrast to the traditional workday, which extended from 7.30 a.m. to approximately 2:00 p.m., a teacher may find it challenging to communicate with management or parents after 8 p.m. Everyone is aware that excessive screen time can result in headaches, dry eyes, eye strain, and blurred vision. Too much screen time impairs information processing because the blue light emitted by digital devices hinders the production of melatonin, a hormone that promotes restful sleep. Are our teachers already overburdened by the constant barrage of links, passwords, Google Classroom, Zoom, Hangout, teaching, meetings, PTMs, and other tasks? According to psychologists, lockdowns can negatively impact not only mental health, but also the economy and employment prospects. The activities like walking, reading, singing, dancing, and playing board games are all mentally stimulating. Yoga and dancing are also included This is an opportunity for couples to develop their relationships with one another and with other loved ones. But, how many educators are able to participate in such an activity? They are exhausted after spending hours in front of a computer screen and speaking incessantly on the phone. Teachers are afflicted by the corona virus. With virtual class sessions and responses to each text, email, and message, online learning is undoubtedly a beneficial option for children; it demonstrates to them that their teachers care about them. Nevertheless, are we not going too far? Class V and above can comprehend, although parents of young children are encouraged to attend daily Zoom sessions.

Isn't it a bit excessive? exclusively for children in the pre-primary grade? The children will fare well without the online course. We may even discover that this time spent with their parents was quite beneficial. Online education should be optional, especially for students in primary school. I also question if a family of four would have access to the same number of PCs, laptops, and Android phones. If not, the parent must wait until the youngster has completed his online course and is prepared to use a computer or laptop. To a doubt, our schools did an excellent job developing remote learning at various educational levels fast, and school competition is now a recognised component of the educational system. In the effort, some institutions are pushing their personnel to the limit. Internet meetings, online interviews, and online admission examinations. Please do not overbook. If CBSE can reduce the curriculum, why couldn't schools adopt an alternative technique, such as admitting pupils based on their grades from the prior class? Why muddy the waters? Several schools continue on from there. The administration monitors the lecturers while they conduct online lessons.

Students ought to have faith in their lecturers. Consider how challenging it would be for a teacher to be under constant observation. online classical music lessons? Anyone with even a basic understanding of classical music would realise how vital it is for the teacher to guarantee that the student creates the correct "Sa." I do not comprehend how the online music teacher is beneficial. The overbearing parents are doing this for the sake of their children, and the schools are doing this for obvious reasons, but the beneficiary is the teacher who is forced to work late despite being able to do her task in 7-8 school hours. Today, social isolation is unavoidable; but, it also develops emotional connection. But, do our instructors spend time with their families? As a team of leaders, school administration must reduce the demands imposed on teachers, reject requests to increase their workload, and not only promote self-kindness but also refrain from being overly harsh with them. They must remember that students can catch teacher worry. Even if teachers survive the pandemic, there may be an epidemic of teacher stress that reduces their productivity and effectiveness.

The Covid-warrior instructors who operate in the background

To assure "good" online classes during this first-ever lockdown and future lockdowns, the lecturers had to deploy increasingly advanced approaches. Teachers must seek out more effective alternatives, such as Google Classroom and Google Meet, to improve the learning environment in the classroom. In this work-from-home era, a thorough understanding of the new online learning system is essential, even though it is no longer a necessity for the majority of teaching positions. For many teaching faculties, the adjustment proved challenging. In addition, ensuring a quality session without interruptions presented a formidable obstacle.

A teacher's concern regarding this new teaching-learning method is whether he can deliver the lesson as effectively and enticingly as he did offline, whether the students will comprehend it, whether the constantly concerned parents will be satisfied, and, most importantly, whether he can maintain the same close relationship with the students as before. Teachers have not exactly been on the front lines of warfare throughout this pandemic age. Teachers may not have actively supported the health sector beyond donating a portion of their wages and delivering philanthropic services to the poor and needy individuals impacted by the pandemic.

In this Covid age, then, their conflict is intense and ongoing. They have been consistently adapting to changing educational situations and experimenting with various approaches to engage meaningfully with the children, adolescents, and young people who constitute our future. Their struggle is silent due to the fact that it is one of self-development. A silent fighter is not enthusiastically praised either. During this tough time when the health team is working while risking their lives, a teacher's duties may seem insignificant; hence, it is believed that teachers are "sitting at home on full salary in lockdown"! Yes, many lack the confidence to reflect on how they spend late hours developing films, written activities, and other visual resources to ensure effective and engaging training during these difficult times. Even after mastering new teaching methods, teachers continue to experience difficulties. The colleges in Assam resumed offline classes in September 2020, following the initial outbreak of the virus. This placed them in an awkward and unfavourable position.

Since they work with adolescents!

If I remark that our college students have the mentality of toddlers in adolescent bodies, I may not be wrong. Even after getting specific government instructions about keeping social distance and wearing masks, they sat close to their friends in class while lowering their masks to their chins. Masks must be worn appropriately, and the instructor must maintain a close check on them. A unpleasant question is how many parents want their children to undergo a Covid test during this outbreak. To my dismay, I have watched students abandoning classes and sobbing violently when the institution's administrator schedules the Covid exam.

Following Covid-19's arrival at our site, catching a cold or coughing is no longer noticeable. Some parents still do not understand the need of keeping their children home from school or college when they have a cold or fever. Now, referencing regulations at every turn extinguishes the warmth in a relationship.

It is feasible to punish government personnel who violate the law. If the same can be done with the students who disgustingly turn the pages while spitting, the issue remains delicate. Will the proctor refuse to sign students' response scripts if they use their own answer scripts to cheat on the exam? likely not. Here, a teacher's duty, the students' future, and, above all, the excellence of the institution which also depends on how well the students perform come first. His worries about catching an infection must be set aside. A teacher can therefore fight without protective gear. After all, he is fighting in secret.

### Conclusion

The epidemic and shifting conditions have also affected the roles of educators. The conventional relationship between teacher and student has been replaced by an occasional greeting, and the physical classroom has been replaced with an online learning environment. Parents, educators, and children have been observed attempting to adapt to the changing conditions despite all of this. Teachers now have a tremendous opportunity to integrate a number of platforms and customise a more effective learning model for their students, thanks to technological advancements. Long-term sustainability requires empowering teachers and investing in the capacity building and skill development necessary to properly utilise online and blended learning. Freeing up teachers' time from administrative responsibilities, focusing on pedagogically sound practises, and providing instructors with social and emotional support are all vital. To ensure the wellbeing of individuals and prevent burnout, we need a comprehensive strategy to socioemotional monitoring and psychosocial support. Teachers around the world have had to rethink how things are managed, similar to how medical professionals and other civic organisations have had to do so to ensure the protection of individuals. Given the restrictions and circumstances, they clearly appeared to have done a respectable job, but more work has to be done for the benefit of all the numerous stakeholders in the wider educational establishment.

## **CHAPTER 19**

# **APPLYING DDPK UNSUPERVISED MACHINE LEARNING ALGORITHM FOR DIFFERENTIAL DIAGNOSIS OF PERSONALITY DISORDERS**

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### **ABSTRACT**

It is usual that patients prefer and at times, physicians too would suggest, for second opinion by medical experts for a particular diagnosis such as in diagnosing whether a tumour is malignant. It is fundamentally important for properly diagnosing any physical or mental ailment. Sometimes health care providers by diagnosing a health problem, would not completely brush away the possibility of or the onset of any other health problem with the related symptoms. This paper centres on the Differential Diagnosis for Personality Disorders. A novel DDPK Unsupervised Machine Learning Algorithm has been developed by the authors of this research paper which is being deployed on the chosen population set, on the Google Colab Environment. The DDPK Algorithm has been developed in such way that the needed visualization in the form of Pie-Chart and Horizontal bar diagrams are rendered by using matplotlib Python Library. Various performance measures such as Calinski-Harabasz Index, Davies-Bouldin Index, Homogeneity Score, and Completeness score have been extracted by implementing Python code and their results are also being discussed to corroborate the efficiency and application of DDPK Algorithm for the Differential Diagnosis of Personality Disorders.

**Keywords:**

Personality Disorder, Differential Diagnosis, Calinski-Harabasz Index, Davies-Bouldin Index, and Homogeneity Score

## 1. INTRODUCTION

Developmental Psychology is the branch of psychology that is attributed to determining and elaborating the continuities and changes that individuals display over time<sup>1</sup>. Developmental disorders come under the ambit of developmental psychology. A disorder is a negatively-impacting dysfunction of a mechanism that systemically flourishes otherwise. The disorder must contribute to a dysfunction in a trait every human naturally develops and must result in an impairment in a major life activity. Whereas, developmental disorder is a disorder attributed by a significant delay in the rate a normal human trait develops in an individual. For those who suffer from any developmental disorder, it usually takes prolonged period to develop such a limitation than that of their age peers without any developmental disorder. Personality Disorders come under the sphere of developmental disorders. The word 'personality' has its root from the Latin phrase 'persona', initially representing the theatrical mask used by ancient performing artists. As a mask worn by an actor, persona promotes a pretence of appearance like an imposter, that is, the possession of traits other than those that actually make up the individual wearing the mask. As time passed by, the phrase persona lost its context of pretence and illusion and began to signify not the mask, but the real person's observable or explicit features. Over the past several decades, the study and research on personality and its disorders have become central to abnormal psychology.

The concept of personality disorders requires an understanding of their role in the study of abnormal behavior<sup>2</sup>. A personality disorder is a way of thinking, feeling and behaving by an individual which are regarded as unacceptable overarchingly, and as deviations from the established expectations of the culture and civic values that individual would have been familiar and grown up with. Such deviations, apart from persisting over a long span of time, will cause distress or problems for that individual in his / her holistic functioning on several aspects of life.<sup>3</sup> Differential diagnosis is an intricate process requiring much specialization, and it is a prime focus of mental health care professional's training. The process is very operator-dependent, so some are better at it when compared with others. The ones who are not very efficient at it, are likely to be error-prone when diagnosing and treating their patients / subjects<sup>4</sup>. Thus, it will not only be a herculean task but also will be a pioneering one in labouring to develop a tool / instrument, and more prominently by employing unsupervised machine learning algorithm for the differential diagnosis of personality disorders. Such tool / instrument will help to fill the gap in the efficiency of mental health care professionals for differential diagnosis of personality disorder and help people across the world to receive the correct diagnosis at an early stage, and fitting interventions or psychotherapy at an appropriate time.

## 2. BACKGROUND

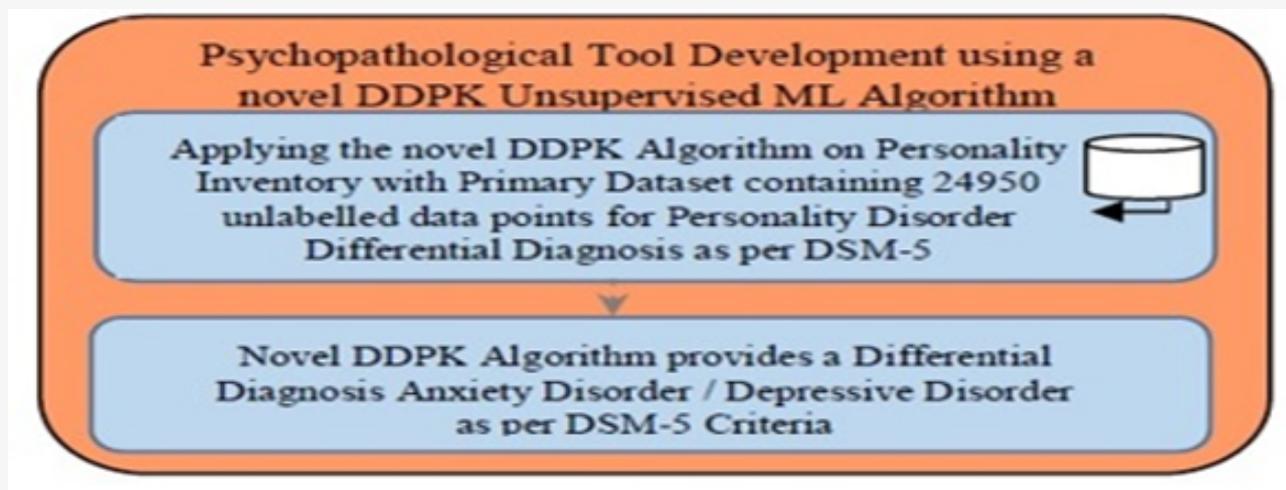
The research endeavours in the gamut of personality disorders is at the beginning stage of development in India. It is quite strikingly a fact that there has been no research articles exclusively focused on personality pathology till the 1980s.<sup>5</sup> In one of the research studies on prevalence of personality disorder across North India, Swapnil Gupta and Surendra Kumar Mattoo have observed that Personality disorders had a prevalence of 1.07%, with a predominance of those aged 21–40 years (69.4%), men (64.9%), employed and students (37.3% and 32.8% respectively), unmarried (56%), graduates and undergraduates (27.6% each).<sup>6</sup> In another research study by Maanasa T J, et al. involving a total population of 116 participants in psychiatric inpatients of a tertiary care hospital, which had majority of the participants who were between 26 to 45 years of age. The prevalence of personality disorder was 21.55% among the study population. Highest proportion of personality disorder was seen in people with major depressive disorder (35.7%).<sup>7</sup> Research studies employing comprehensive protocols for assessment have resulted in high rates of personality pathology in patients with anxiety disorders, such as, social phobia.<sup>8</sup> Thus, the symptoms of anxiety and depression are to be closely evaluated for differential diagnosis when a subject / patient is being screened for personality disorder, especially through any self-reporting questionnaire for personality disorders. According to DSM 5th Edition (DSM-5; American Psychiatric Association) published in the year 2013, when the individual's symptoms are not associated with any psychotic disorders and posttraumatic stress disorder; the differential diagnosis of personality disorders should be either anxiety disorders or depressive disorders.<sup>9</sup> Contrary to the skewed opinion, it is not easy to decisively conclude the diagnosis when the patient's anxiety and depression are autonomous and neurotic problems or symptoms of a personality disorder. Hence, anxiety and depression should be ruled out as differential diagnostic criteria. In other words, the mere existence of depression or anxiety in a patient does not prove that he or she has a personality disorder.<sup>10, 11</sup> Dragan M Svrakic, et al. observed that the methods for differential diagnosis of personality disorders tend to have major practical and theoretical boundaries. In particular, structured interview method (in DSM-III-R, one of the predecessors of DSM-5) employed for the diagnoses of personality disorders consume more than 90 minutes to conduct and produce multiple overlapping diagnoses. They were furthermore opinionated that dexterous screening procedures to identify individuals requiring more detailed assessments have not been validated.<sup>12</sup> The authors of this paper have already developed and deployed a novel unsupervised machine learning algorithm (PDPK Algorithm) to diagnose personality disorders as per DSM-5. However, such algorithm did not have the differential diagnosis of personality disorders in its scope. As the quintessential succession to their research work, and as per the DSM-5 advocacies, the authors of this paper have developed another novel unsupervised machine learning algorithm (DDPK Algorithm) which was deployed using primary data with 25150 data points from a Personality Inventory Questionnaire collected from 503 respondents, in a non-clinical set-up.

### 3. METHODOLOGY

The deployment of supervised machine learning algorithms in both Classification and Regression models could not be employed for the differential diagnosis of personality disorders as there is no labelled data used in this model. Moreover, none of the Classification and Regression model of machine learning algorithms meet the DSM-5 criteria for differential diagnosis of personality disorder, by considering the 25150 data points collected from the Personality Inventory Questionnaire from 503 respondents in a non-clinical set up; after performing appropriate data cleaning steps. The DSM-5 criteria for differential diagnosis of personality disorders centres on Anxiety disorders and Depressive disorders when there is no apparent and establishing symptoms for Psychotic disorders, Posttraumatic stress disorders, and Substance-use disorders identified.<sup>13</sup> Based on such a DSM-5 criteria for differential diagnosis of personality disorder, all those questions in the Personality Inventory Questionnaire have been probed for its respective indication-level of either anxiety or depression level that each of the respondent might have been going through. For anxiety indication-levels totally 8 questions have been identified; which for depression indication-level stood as 6 questions. Both the anxiety disorder score and depressive disorder score obtained by the respondent is normalized in order that the anxiety or depressive symptoms getting a higher score after normalization, is resulted as the diagnosis by DDPK Algorithm.

In actual clinical scenarios during differential diagnosis of personality disorder, there is a possibility that captured symptoms are the indication of the onset of anxiety disorder and depressive disorder, which are resulted by the DDPK Algorithm as mild anxiety disorder and mild depressive disorder respectively. Only if the assigned weights to the responses, for each of the eight questions considered for anxiety disorder differential diagnosis, and for each of the six questions considered for depressive disorder differential diagnosis get 5, 7 or 10; the DDPK Algorithm takes those weights for further processing. The authors of this research paper, after earnest efforts have substantiated that the unsupervised machine learning algorithms such as K Means Clustering, and Hierarchical Clustering, <sup>14</sup> and also the SOM algorithm through MiniSOM library<sup>15</sup> are not productive to predict the differential diagnosis of personality disorders as the eight questions and six questions in the Personality Inventory Questionnaire, indicating the anxiety disorders and depressive disorders, respectively. Such questions are taken from the pool of questions covering all three clusters: Cluster A, Cluster B, and Cluster C as per DSM-5. For the differential diagnosis of personality disorder, even the DBSCAN (density based spatial clustering of applications with noise) unsupervised machine learning algorithm cannot be deployed due to the fact that DBSCAN is best suited when the number of clusters are not known before the epochs.<sup>16</sup> Even the novel PDPK Algorithm that the authors of this paper have already developed and deployed for the diagnosis of personality disorders<sup>17</sup> on the same dataset with 25150 data points collected from 503 respondents cannot be redeployed for the differential diagnosis of personality disorders as per DSM-5. Hence, the need for the design, development, and deployment of a novel unsupervised machine learning algorithm for the differential diagnosis of personality disorders surfaced

Fig 1. Personality Disorder Differential Diagnosis using unsupervised Machine Learning Algorithm



4.RESULTS

For the purpose of this research, 503 Respondents were administered with the Personality Inventory Questionnaire through a Google Form which was converted into a CSV file. This .CSV file was used as the dataset with totally 25150 unlabelled data points, and used in the Google Colab IDE.

S.No	Ipynb Cell No	Code Description in the Cell	Execution Time Taken	Total Memory Used for the whole DDPK Algorithm
1	1	Importing matplotlib, pandas, and numpy	CPU times: user 427 ms, sys: 41.9 ms, total: 469 ms	
2	2	Uploading all the processed data points contained in a .CSV file into Google Colab Cloud	CPU times: user 329 ms, sys: 53.4 ms, total: 382 ms	
3	3	Deploying DDPK Algorithm and generating analytics, prediction through Visualizations	CPU times: user 2.01 s, sys: 84.8 ms, total: 2.09 s	
<b>Total Execution Time</b>			<b>469 ms + 382 ms + 2090 ms</b> <b>2.941 Seconds</b>	<b>1.07 GB RAM</b>

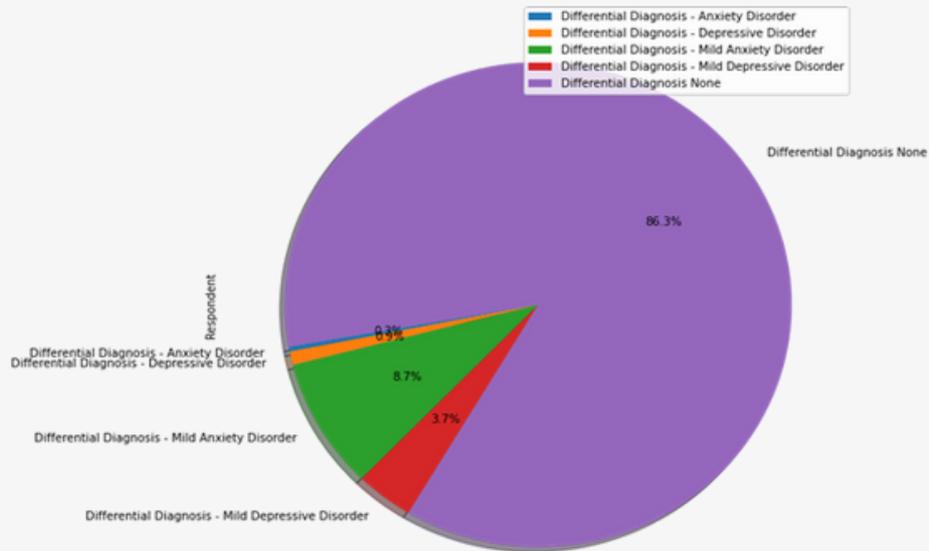


Fig.2 Percentage of respondents receiving differential diagnosis for personality disorders

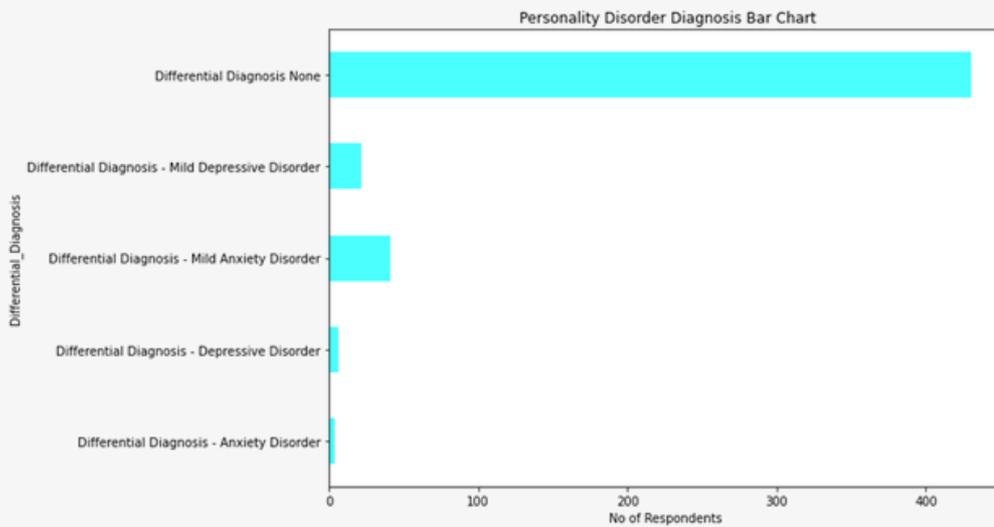


Fig.3. Number of respondents receiving differential diagnosis for personality disorders

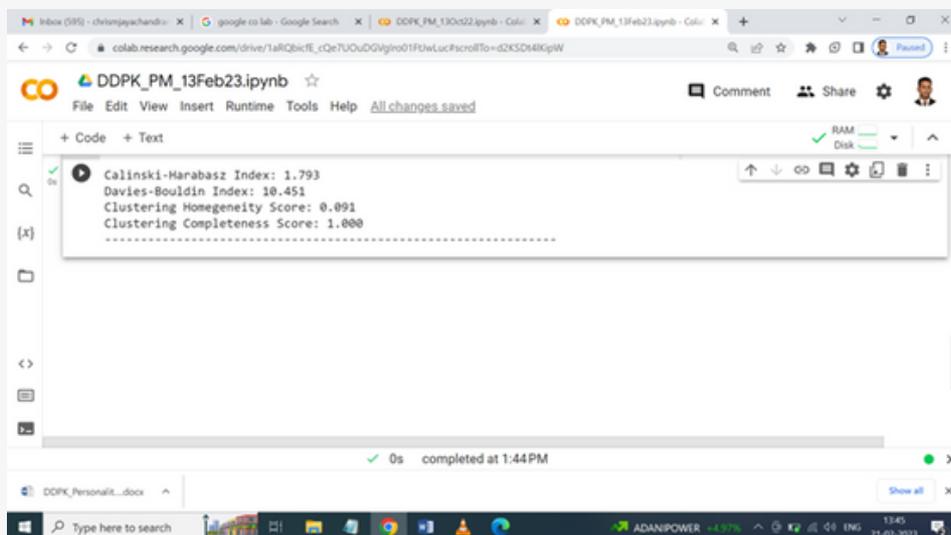


Fig.4. Extract from Google Colab IDE showing the value for various Performance Measures

The DDPK Algorithm, out of the 503 respondents has ruled out that 430 do not have any differential diagnosis from the responses given to self-report styled Personality Inventory Questionnaire. 41 respondents who have given responses that carried 5, 7, and above weights for many of those 8 questions for anxiety disorders, thus, received a differential diagnosis as ‘Mild Anxiety Disorder. The same is true for the weights of 6 questions for depressive disorders, due to which 22 respondents have received a differential diagnosis as ‘Mild Anxiety Disorder’.

### 5.DISCUSSION

Probing into the fitness and performance of a machine learning (ML) algorithm is very significant. For ML algorithms falling under the scope of supervised ML algorithms, confusion matrix is used to gauge the performance. However, for ML algorithms belonging to the category of unsupervised ML algorithms, the accuracy score through preparing confusion matrix could not be performed by the authors of this paper. The hurdle in making use of accuracy score is that it needs the assigned cluster labels to perfectly match the ground truth. However, the cluster labels themselves provide no meaning—the only aspect that gets the spotlight is which points are in the same cluster. Administering metrics like Adjusted Rand Index (ARI) and Normalized mutual information (NMI) only assists in developing new machine learning algorithms, not in gauging its success in an application.<sup>18</sup> Moreover the dataset used for the deployment and performance measure of DDPK Algorithm is a not a real-world dataset approved by any professional bodies and made available in any accredited repository such as University of California Irvine Machine Learning Repository (<https://archive.ics.uci.edu/ml/index.php>) The authors have made sure that the model is neither an ‘under-fit’ nor an over-fit’, by having clustering tendency. Clustering tendency results in having uniformly distributed data points. Many ML researchers have been advocating that if the dataset does not have clustering tendency, then clusters produced by any clustering machine learning algorithm may be irrelevant and non-representational of the real-world problem. Non-uniform distribution of data points in dataset has been provided with greater importance to critique the performance of the specific clustering algorithm.<sup>19</sup>

For this research paper, the authors are in a position to establish that the ground truth has been materialized at least at the primary levels on the 5400 data points, through administering structured interviews, and individual Psychotherapy sessions to 108 respondents. However, for ensuring the ground truth on the entire 503 respondents including the 25150 data points in the dataset, was not feasible through administering structured interviews or one-on-one sessions.

Clustering Performance Measures such as Silhouette Score, Dunn Index, and V measure score cannot be applied on this phase of the Research work as they need KMeans Clustering completed first and that these performance measures are the results of working with clusters given by KMeans. Furthermore, the scope of this research work does not necessitate the KMeans clusters to be calculated as such clusters do not align with DSM-5 criterion. Hence, the most two important Performance Measures for Clustering Algorithm such as Calinski-Harabasz Index, Davies Bouldin Index have been calculated by deploying the code in Python Google Colab Environment Additionally, Homogeneity Score, and Completeness score have also been arrived at.

The novel DDPK Algorithm has the Calinski-Harabasz Index value of 1.793 which is more than zero. Such score tends to indicate that clusters as predicted by the DDPK Algorithm are dense and well separated. Davies-Bouldin Index is also a fair value at 10.451 which is not very huge starting from zero. Such score amplifies that there is better separation between clusters. The homogeneity score is bounded between 0 and 1. The DDPK Algorithm yields 0.091 as the homogeneity score which is acceptable. Completeness score ranges from 0 to 1 and measures how much similar samples are grouped together by the clustering algorithm. The Completeness score for the DDPK Algorithm is 1 which is the highly preferred score.

Thus, the novel DDPK Algorithm's performance measures indicate the good performance and fit of the Algorithm for the Differential diagnosis of Personality Disorders.

### 6.CONCLUSIONS

After meticulous literature review, the authors have identified the research scope of developing novel unsupervised machine learning algorithms that can be applied to those developmental disorders whose diagnoses do not mandate the capturing of any biomarkers and their laboratory reports. ADHD, and personality disorders are such developmental disorders, whose diagnoses could be done through self-reports and caregivers' feedback followed by sessions by clinical psychologists and or psychological counsellors. The authors have successfully developed and deployed three algorithms namely APK, PDPK, and DDPK unsupervised ML algorithms, which respectively are for diagnosing the three different types of ADHD, diagnosing personality disorders, and for the differential diagnosis of personality disorders.

The authors would like to widen the scope of research work, to other domains of Developmental Psychology such as Intellectual Disabilities (Major and Mild Neurocognitive Disorders, Communication Disorders, Autism Spectrum Disorder, and Genetic Disorder) and Specific Learning Disabilities (Dyscalculia, Dysgraphia, Dyslexia, Dyspraxia, Non-Verbal Learning Disabilities, Oral / Written Language Disorder, and Specific Reading Comprehension Deficit).

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## **CHAPTER 20**

# **IMPACT OF COVID 19 ON EDUCATIONAL SECTOR**

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### **Abstract:**

The World Health Organization (WHO) declared the new corona virus (COVID-19) a pandemic on March 11, 2020. It is known that this virus affects older people more, although this idea was refuted, and a small number of other researchers have performed descriptive and mathematical analyses of COVID propagation and generated a small number of predictions that need to be observed. Several areas across the globe have been affected, including small and major businesses, the global economy, the health sector, transportation, wages, industries, and education. The news reports and other trustworthy sources make it clear that this pandemic has primarily had negative effects. Yet, it is clear that many academic pursuits, such as regular classes, webinars, faculty development programmes, lectures, training, and certification programmes, have greatly prospered during the worldwide lockdown. While this online capability has made schooling more convenient and easier, it also has its drawbacks. The effect of COVID-19 on the educational sector has been highlighted in this article. About 91% of students worldwide have been affected by the global shutdown, according to a UNESCO assessment (UNESCO, 2019). According to this estimate, the corona virus would negatively affect more than 290 million pupils across 22 nations. According to the same survey, 32 crore students in India, including those in schools and universities, are impacted.

**Keywords:-** higher education, new norms, Covid-19, virtual education, inter- disciplinary science

### COVID-19's effect on education

The education sector has seen significant changes as a result of the pandemic, including a switch from traditional classroom settings to online learning environments, teacher adoption of updated pedagogy, administration of exams and competitive exams, etc. According to the UNESCO report, 150 nationwide closures and 1,190,287,189 students have been impacted in the education sector (UNESCO, 2019). Studies have looked into how COVID-19 may affect students' education and mental health as well as that of academic professionals. Due to COVID-19's impact on education, there are various difficulties. Secondly, to safeguard the old educational system from being completely replaced by online learning, which is not available to everyone and necessitates strong technical support, teacher preparation, and high-speed internet. Second, because it is impossible to guarantee the originality of the performance, the assessment and evaluation system employing an online platform does not provide accurate student performance data. The students may utilise another device to get assistance while completing the assessment's questions. The third is the research platform, which includes overseas travel, conference and seminar cancellation, and seminar postponement. The work has been negatively impacted by other research endeavours.

The entire educational process has been shifted from traditional to online modalities through COVID-19. Online platforms are provided for both professionals and students. The students won't waste time, energy, or money travelling and can concentrate on their studies while being at home. Compared to pre-COVID situations, they can invest more since they are less exhausted. The students who are under the direct supervision of parents have benefited more from studying at home. The online platform has given them a great opportunity to succeed in theory studies. Nonetheless, there has been a significant restriction on the practical assignments that the students are required to do in labs and fields. Teachers' ability to demonstrate to pupils in the classroom in the absence of laboratory equipment and other essential practical materials has been severely limited as a result.

Yet, this has caused students whose courses are more practical to complete their coursework on time despite the total lockdown albeit with inadequate information. Hence, a combination of these advantages and disadvantages has raised the degree of education.

Flexi courses have made learning convenient online, but there is no guarantee that the student will actually show up for the lesson. Sometimes the teacher and students experience a lot of disruptions because of network issues. Students occasionally engage in naughty behaviour, such as creating phoney email addresses, making noise, posting superfluous comments, etc. It is challenging for the teacher to maintain discipline. For some disciplines, such as web design and other ones where the practical demonstration may be better comprehended through online presentation and screen sharing features, this online form is more appropriate than direct contact teachings.

On the other hand, pupils from lower socioeconomic classes do not have access to online education. As a result, there is a significant and unfair socioeconomic stratification that deprives students of their constitutional access to an education. People are less tech-friendly in emerging nations like India, where a large portion of the population comes from rural backgrounds. Despite the abundance of technology resources, this presents another hurdle for the Indian educational system. A teacher or a student may struggle with this issue. Online lectures do not allow teachers who are better suited and more at ease in face-to-face instruction to devote their full attention. During the lockout, many experts began offering free online courses, training programmes, workshops, webinars, etc., which has provided all students a good opportunity to refresh their credentials without spending any money. This is a very positive and beneficial development. Individuals with hectic work schedules who ordinarily cannot dedicate time to such programmes are now given the opportunity to improve themselves. Young professionals, on the other hand, are getting a fair chance to portray themselves with more assurance.

Online education offers benefits and drawbacks in terms of its physiological and cognitive consequences. A recent study on the effects of digital devices on creativity and sleep was undertaken at Harvard Medical School. It was shown that the use of digital media significantly influences how neural connections are formed in a developing human brain. But, using a screen for longer than the advised amount of time can stunt brain growth. Due to the melatonin hormone's undersecretion, this also affects sleep quality.

The accessibility of study resources is yet another important issue. Not all of the study material is accessible online. The library typically has a number of offline resources that are unavailable in the online database. This information is being withheld from a student. Also, the educational institutions that have chosen to administer exams online struggle to create question questions. The majority of the exam questions are multiple choice, which denies the student the opportunity to provide descriptive responses, which are just as important for learning. The student's writing abilities are enhanced as a result.

While holding lessons and administering exams online has its drawbacks, evaluations between the teacher and students—where the students learn about their performance—have improved in convenience and transparency. The instructor can deliver online assignments and evaluations thanks to certain systems. For the operation of classes, online teaching does not require a significant infrastructure. Instead, it may be made workable with a good IT team. The other teaching and stationary resources are necessary for direct contact teaching; without them, the lesson is likely to suffer. This flaw in direct contact instruction has been concealed by the online learning environment. Yet, because there is less direct and one-on-one social engagement, online learning increases people's dependence on technology. People are becoming more and more addicted to technology as a result.

### Impact of home confinement on students and teachers

All levels of the education system, from preschool to higher education, have been impacted by the COVID-19 problem (in more than 150 countries), resulting in the progressive closure of schools and universities. Similar circumstances were present throughout the pandemics in the past as well. Although the education sector has been able to meet the demands to ensure that children's educational attainment remains undisturbed through "online learning," "homeschooling," "virtual learning," or "E-learning," being confined to home or being on lockdown has had an impact on lives and livelihood across various spheres.

By switching to online learning, minimal study loss is guaranteed. Progress and achievement are also carefully monitored through timely assessment and evaluation. Internal learning evaluations and assessments are regarded as being of great relevance since they highlight the students' learning needs and provide evidence in support of corrective action. Yet, with the move to online platforms and remote access, a significant issue about the accessibility of adequate internet facility networks and technology, particularly in lower socio-economic zones and strata, occurred. Online portals were used by numerous nations to launch TV and radio stations, and each government tackled the issue.

It is believed that remote learning or digital learning can manage higher education rather well. As a result, the majority of research done to examine how the COVID-19 pandemic has affected education discusses the negative effects on learning and student well-being as a result of homeschooling, digital learning, and parental concerns about providing childcare management and guidance needed for their distance learning programmes, as well as the resources that are available to them and their socioeconomic circumstances.

In contrast to past research studies that claimed that student well-being is influenced by the quality of learning, online learning was said to have long-term positive effects that can be expected despite the continued COVID-19 conditions. The use of online learning methodologies has a considerable favourable impact on learning efficiency and performance, according to a recent study. It is essential that educational reform be implemented to provide sufficient teacher training and further develop the new normal of digital learning for operating properly in the future in order to better grasp the teaching and learning process during this crisis.

Additionally, COVID-19 may never completely disappear, according to WHO. They must instead learn to adapt to it. As a result, by the policymakers, distant learning is integrated into regular education, helping students learn good coping skills and avoiding adverse effects in case of emergencies encountered.

Nonetheless, distance learning should be promoted in order to lessen the difficulties brought on by home confinement and school closings.

High-speed internet, constant power supply, cyber security, as well as proper training for educators and students, should be used to emphasise the need for updating with modern technology. This will enable them to have the necessary skills and competencies to operate electronic devices, as well as the necessary knowledge and understanding about the method in which the information is imparted.

In light of the COVID-19 pandemic we recently experienced, it is obvious that many established rules for academic life need to be revised. All educational systems, however, are working towards the same objective of resolving the learning issue and effectively combating the COVID-19 epidemic.

Regarding the family setting, it has been noted that numerous faculties are citing challenges with online instruction. It is alleged that families, particularly those of youngsters, are not helping to uphold the decorum of the class. The child's behaviour is encouraged to continue by the family members' constant disturbance of him or her for one cause or another. The understanding and development of the child are significantly influenced by the parents' cognitive abilities. The parents' understanding of the academic and other assignments will help the kids to have a constant source of assistance anytime they need it, without having to wait for the next time they see the teacher. India is having a lot of problems in this area because a huge portion of the population lacks the education necessary to meet the modern educational needs of their offspring. Thus, a child's learning is greatly influenced by their family.

The impact of uncertainty on several dimensions

Today, there is a lot of anxiety about the impact diagonals or the crater that is being produced as a result of the scenario. We will discover that this pandemic problem is not just medical or psychological if we look at the context and scenario. The bio-psycho-social domain of health psychology, which discusses the link between biology, psychology, and socio-environmental factors, is a three-dimensional region that is included in this discipline. This paradigm is crucial in explaining how people engage with their surroundings and sheds insight on how people interact with the social environment, as we all work under predetermined boundaries and standards. When environmental influences have an impact on these domains, a deadly mix is born. In the shape of numerous psychological and socioenvironmental effects, including financial, mental health, environmental, etc., the globe is confronted with the same evidence. The effects of the epidemic are present everywhere. The effects of COVID-19 on education are thoroughly explored in the current chapter.

### Conclusion

Several sectors have been negatively impacted by the pandemic scenario, but the education sector has experienced both benefits and drawbacks. While the viral outbreak has had a detrimental impact in other areas, the education sector has managed to survive and has demonstrated its benefits. Particularly when it comes to digital education, it has proven to be the system's salvation. Nonetheless, it is inevitable that this digitalization has its limitations. It has advantages and disadvantages, including social isolation at home and other factors. Hence, the majority of the course requirements are completed in this pandemic circumstance. But, in some educational areas, learning and results are negatively impacted, which further opens the way for more advanced education to be reformed by policymakers and the government. To create a better learning environment, a futuristic approach to putting such an educational system in place needs to be carefully planned. But, for greater results, traditional pedagogy combined online teaching strategies may result in extremely fruitful outcomes. Consequently, it can be said that despite its shortcomings, the COVID-19 epidemic has gained momentum thanks to a number of internet channels.

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## **CHAPTER 21**

# **COMPETENCY MAPPING : TECHNICAL COMPETENCIES, BEHAVIORAL COMPETENCIES, AND LEADERSHIP COMPETENCIES**

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Competency mapping is a process of identifying the skills, knowledge, and behaviors required for successful performance in a particular role or function within an organization. It is a systematic approach to identifying and defining the competencies necessary for an individual to excel in a given role.

Competency mapping would typically introduce the concept of competencies and their importance in the workplace. It would explain the need for competency mapping in organizations and the benefits it offers. The chapter may also cover the history and evolution of competency mapping, including its origins in the military and the subsequent adaptation of the concept in the corporate world.

The chapter may also discuss the various types of competencies, such as technical competencies, behavioral competencies, and leadership competencies. It may describe the difference between competencies and skills and explain how competencies are more comprehensive and holistic than mere technical or functional skills.

Additionally, this chapter also explores the various approaches to competency mapping, such as the behaviorally anchored rating scales (BARS) and the critical incident technique (CIT). It may also discuss the challenges and limitations of competency mapping, such as the subjectivity involved in the process and the difficulty in measuring intangible competencies such as emotional intelligence.

Overall, this chapter of a book on competency mapping would provide an overview of the topic and lay the foundation for the subsequent chapters that would delve deeper into the various aspects of competency mapping.

Competencies refer to the knowledge, skills, abilities, and other qualities that are necessary for successful performance in a specific job or role within an organization. Competencies can vary widely depending on the specific job or industry, but there are some common competencies that are generally considered important in the workplace.

Here are some examples of competencies and their importance in the workplace:

**Communication:** Communication is a critical competency in any workplace. The ability to communicate effectively with coworkers, managers, customers, and other stakeholders is essential for building relationships, resolving conflicts, and achieving business goals. Good communication skills involve listening actively, speaking clearly and concisely, and using appropriate nonverbal cues.

**Leadership:** Leadership is a crucial competency for those in management positions, but it's also important for individual contributors who want to take on more responsibility and influence others. Effective leadership involves inspiring and motivating others, making decisions, and solving problems in a way that aligns with the organization's mission and values.

**Teamwork:** Most jobs involve working with others, so the ability to work collaboratively in a team is an essential competency. Successful teamwork requires good communication, collaboration, and conflict resolution skills, as well as a willingness to contribute to the group's goals and support others when needed.

**Problem-solving:** Problem-solving is another important competency in the workplace. Employees who can identify problems, analyze data, and develop effective solutions are highly valued. Good problem-solving skills involve creativity, critical thinking, and the ability to use data and other resources to inform decisions.

**Time management:** In today's fast-paced work environment, the ability to manage time effectively is essential. Employees who can prioritize tasks, set goals, and manage their time efficiently are more productive and better able to meet deadlines.

**Adaptability:** The ability to adapt to change is increasingly important in today's rapidly evolving work environment. Employees who can adapt to new technologies, processes, and business models are more likely to succeed. Good adaptability skills involve being open-minded, flexible, and willing to learn new things.

**Technical skills:** In many industries, employees need to have specific technical skills related to their job function. For example, a software developer needs to know programming languages, while a financial analyst needs to understand accounting principles. Employers often look for candidates who have the technical skills necessary to perform their job duties effectively.

Overall, competencies are essential in the workplace because they enable employees to perform their job duties effectively and contribute to the organization's success. By identifying and developing key competencies, employers can build a more skilled and capable workforce, which can lead to increased productivity, higher quality work, and better business outcomes.

There are several different types of competencies that individuals may possess, each with their own specific set of skills and knowledge. Here are some of the most common types of competencies:

**Technical competencies:** Technical competencies are specific skills and knowledge required to perform a particular job function. They may include skills such as programming, data analysis, accounting, or graphic design. These competencies are often essential for success in certain industries or roles and may require specialized education or training.

**Functional competencies:** Functional competencies are skills and knowledge required to perform well in a particular functional area of a business, such as marketing, human resources, finance, or operations. They may include skills such as project management, budgeting, or recruiting.

**Leadership competencies:** Leadership competencies are skills and knowledge required to lead and manage others effectively. They may include skills such as decision-making, coaching, mentoring, or strategic planning. These competencies are essential for individuals in management or leadership roles.

**Interpersonal competencies:** Interpersonal competencies are skills and knowledge required to effectively interact with others. They may include skills such as communication, teamwork, conflict resolution, or empathy. These competencies are important for individuals in all roles and can help build positive relationships with coworkers, customers, and stakeholders.

**Cognitive competencies:** Cognitive competencies are skills and knowledge related to mental processes such as perception, memory, and reasoning. They may include skills such as critical thinking, problem-solving, creativity, or decision-making. These competencies are important for individuals in all roles and can help improve productivity and innovation.

**Emotional competencies:** Emotional competencies are skills and knowledge related to emotional intelligence, or the ability to recognize and manage one's own emotions and the emotions of others. They may include skills such as self-awareness, self-regulation, empathy, or social skills. These competencies are important for individuals in all roles and can help improve teamwork, communication, and leadership.

**Cultural competencies:** Cultural competencies are skills and knowledge related to understanding and interacting with individuals from different cultural backgrounds. They may include skills such as cross-cultural communication, diversity and inclusion, or cultural sensitivity. These competencies are becoming increasingly important in a globalized workforce and can help build stronger relationships with coworkers, customers, and stakeholders from diverse backgrounds.

Overall, competencies are a crucial component of success in the workplace. By identifying and developing these key competencies, individuals can enhance their skills and knowledge and improve their performance and career prospects.

There are several different approaches to competency mapping, each with its own strengths and weaknesses. Here are some of the most common approaches:

**Job analysis approach:** This approach involves analyzing the key tasks, duties, and responsibilities of a particular job or role and identifying the competencies required to perform those tasks effectively. Job analysis can be conducted through various methods such as interviews, surveys, observation, and job description analysis.

**Competency dictionary approach:** This approach involves using a pre-defined list of competencies, often referred to as a competency dictionary or framework, to identify the competencies required for a particular job or role. Competency dictionaries may be developed internally by the organization or obtained from external sources such as industry associations or consultants.

**Behavioral event interview approach:** This approach involves conducting structured interviews with current or past employees who have performed well in a particular job or role. The interview questions are designed to elicit specific examples of behaviors and actions that demonstrate the required competencies for the job.

**Assessment center approach:** This approach involves conducting a series of assessment exercises, such as role-plays, case studies, and simulations, to assess an individual's competencies. The results of the assessment center can be used to identify the competencies required for a particular job or role.

**360-degree feedback approach:** This approach involves gathering feedback from multiple sources, such as managers, peers, and subordinates, on an individual's performance and competencies. The feedback can be used to identify the competencies required for a particular job or role and to develop an individual's competency profile.

**Best practices approach:** This approach involves identifying the competencies required for a particular job or role based on best practices within the industry or organization. This may involve benchmarking against other organizations or analyzing high-performing employees within the organization.

Each of these approaches has its own strengths and weaknesses, and organizations may choose to use a combination of approaches to develop a comprehensive competency mapping process. Ultimately, the goal of competency mapping is to identify the specific competencies required for success in a particular job or role and to develop strategies to recruit, develop, and retain employees who possess those competencies.

**Behaviorally Anchored Rating Scales (BARS)** is a performance appraisal method that combines the elements of a traditional rating scale with a behavioral checklist to provide a more objective evaluation of an employee's performance. BARS involves defining the performance dimensions of a particular job and then developing a scale that ranges from excellent to poor for each dimension. Each level of performance is then anchored with specific behavioral examples of what the employee would do or say to demonstrate that level of performance.

The process of developing a BARS system involves the following steps:

**Define performance dimensions:** The first step is to identify the key performance dimensions that are relevant to the job being evaluated. This may involve reviewing job descriptions, talking to employees, and analyzing job tasks and responsibilities.

**Develop behavioral anchors:** Once the performance dimensions are defined, the next step is to develop specific behavioral anchors for each level of performance on the scale. This involves identifying specific behaviors or actions that employees would demonstrate to achieve each level of performance.

**Create the rating scale:** The next step is to create the rating scale for each performance dimension. This involves assigning a number or rating to each level of performance, ranging from excellent to poor.

**Train raters:** Before implementing the BARS system, it is important to train the raters on how to use the system effectively. This may involve providing examples of performance at each level and discussing the criteria for each rating.

**Evaluate performance:** Once the BARS system is in place, employees are evaluated based on the specific behavioral anchors for each performance dimension. The raters use the scale to rate the employee's performance on each dimension, providing objective feedback that is grounded in specific behaviors and actions.

The benefits of using BARS include its ability to provide more specific and objective feedback to employees, its potential to improve the accuracy and reliability of performance evaluations, and its ability to promote a more open and transparent performance evaluation process.

. However, developing a BARS system can be time-consuming and requires a significant amount of effort and resources. Additionally, it may be more difficult to compare performance across different jobs or roles using a BARS system, as each system is tailored to the specific job being evaluated.

The Critical Incident Technique (CIT) is a qualitative research method used to gather and analyze data about specific events or incidents that are critical to the performance of a job or task. The technique involves collecting and analyzing detailed descriptions of specific incidents, with the aim of identifying the behaviors, actions, or circumstances that contribute to success or failure in a particular job or task.

The CIT method typically involves the following steps:

**Identify the critical incidents:** The first step in the CIT method is to identify the specific incidents or events that are critical to the performance of the job or task being studied. This may involve conducting interviews with subject matter experts, observing job tasks and responsibilities, and reviewing performance data.

**Collect data:** Once the critical incidents have been identified, the next step is to collect data about each incident. This may involve conducting interviews with employees who were involved in the incident, reviewing reports or documentation related to the incident, and collecting any other relevant information.

**Categorize the data:** After the data has been collected, the next step is to categorize the data into meaningful groups. This may involve grouping incidents based on the behaviors, actions, or circumstances that contributed to success or failure.

**Analyze the data:** Once the data has been categorized, the next step is to analyze the data to identify patterns or trends. This may involve identifying the most common behaviors or actions that contribute to success or failure, or identifying any underlying causes or factors that may be contributing to poor performance.

**Draw conclusions:** Finally, the last step in the CIT method is to draw conclusions based on the data analysis. This may involve making recommendations for improving performance, developing training programs, or identifying areas for further research.

The main advantage of using the CIT method is that it provides a rich and detailed understanding of the critical incidents that are central to job or task performance. However, it is a time-consuming and resource-intensive method that may not be feasible for all research projects. Additionally, the data collected through the CIT method is qualitative in nature and may be difficult to analyze objectively, which can limit the generalizability of the findings.

## **CHAPTER 22**

# **FORESEEING THE FUTURE IMPLICATIONS OF ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION**

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### **Introduction**

Artificial Intelligence (AI) is a field of computer science that is growing rapidly and has the potential to transform various aspects of our lives. AI technologies are being developed and deployed in many different sectors, including education. In recent years, AI has begun to revolutionize higher education, changing the way students learn and teachers teach. AI-powered tools and platforms can help educators personalize learning, automate administrative tasks, and even predict student outcomes. However, as AI becomes more prevalent in higher education, it is important to consider the potential implications and challenges that may arise.

This article will examine some of the possible future implications of AI in higher education, including its impact on teaching and learning, student privacy, equity and access, and workforce development. It will also explore some of the challenges that may arise and offer some potential solutions to these challenges.

### Review of Literature:

Artificial intelligence (AI) is rapidly transforming various industries, including higher education. In recent years, AI-powered tools and platforms have begun to revolutionize the way teachers teach and students learn. However, as AI becomes more prevalent in higher education, it is important to consider the potential implications and challenges that may arise. The following literature review provides an overview of recent research on the future implications of AI in higher education.

One of the primary benefits of AI in higher education is its ability to personalize learning for individual students. Adaptive learning systems and intelligent tutoring systems can use data to identify where a student is struggling and provide targeted feedback and resources to help them improve (Martin & Ritzhaupt, 2020). In a study conducted by the University of Georgia, researchers found that students who used an AI-powered tutor system performed significantly better on exams than those who did not use the system (Anderson & Skiba, 2020).

AI can also be used to develop intelligent educational content that can adapt to the needs and preferences of individual students. This can include everything from virtual reality simulations to intelligent textbooks that can adjust their content based on the student's level of understanding (Liu, Liu, & Kwon, 2020). Additionally, machine learning algorithms can be used to analyze large amounts of student data and provide insights into student performance, allowing teachers to identify areas where students need more support and adjust their teaching accordingly (Martin & Ritzhaupt, 2020).

To address the concerns of student privacy, researchers have suggested a number of potential solutions. One approach is to develop stricter data privacy policies and regulations, as well as investing in secure data storage and encryption technologies (Thompson & Rosenblatt, 2020). Additionally, educators should be transparent with students about how their data is being collected and used, and should obtain their consent whenever possible (Martin & Ritzhaupt, 2020).

Researchers have suggested a number of strategies to address the concerns of equity and access. One approach is to ensure that AI-powered tools are designed with equity in mind, taking into account the needs and experiences of all students (Thompson & Rosenblatt, 2020). Additionally, educators and policymakers should work to ensure that all students have access to these tools, regardless of their socio-economic status or other demographic factors (Martin & Ritzhaupt, 2020).

While AI has the potential to greatly improve the quality of education, there are also a number of challenges that must be addressed. One concern is that AI-powered tools could replace human teachers, leading to a devaluation of the teaching profession (Liu, Liu, & Kwon, 2020). Additionally, there are concerns that AI-powered educational content may lack the human touch that is necessary for effective teaching and learning (Anderson & Skiba, 2020).

## Impact of Artificial Intelligence in Higher Education

### Impact on Teaching and Learning

One of the most significant ways that AI is already transforming higher education is by changing the way teachers teach and students learn. AI-powered tools can help educators personalize learning for individual students, providing them with more customized support and feedback. For example, adaptive learning systems can use data to identify where a student is struggling and provide targeted feedback and resources to help them improve. Similarly, intelligent tutoring systems can provide students with personalized guidance and support as they work through problems or assignments.

Another way that AI is changing teaching and learning is through the development of intelligent educational content. AI can be used to create interactive educational content that can adapt to the needs and preferences of individual students. This can include everything from virtual reality simulations to intelligent textbooks that can adjust their content based on the student's level of understanding.

AI can also be used to improve assessment and evaluation in higher education. Machine learning algorithms can be used to analyze large amounts of student data and provide insights into student performance, allowing teachers to identify areas where students need more support and adjust their teaching accordingly.

While these advancements have the potential to greatly improve the quality of education, there are also concerns about the role of AI in the classroom. For example, some educators worry that AI-powered tools could replace human teachers, leading to a devaluation of the teaching profession. Additionally, there are concerns that AI-powered educational content may lack the human touch that is necessary for effective teaching and learning.

### Student Privacy

As AI becomes more prevalent in higher education, there are growing concerns about the privacy and security of student data. AI-powered tools and platforms rely on vast amounts of data to operate effectively, including data about student performance, behavior, and preferences. While this data can be used to improve the quality of education, it also raises important questions about who has access to this data and how it is being used.

One concern is that AI-powered tools could be used to collect sensitive data about students, such as their race, gender, or socio-economic status. This data could be used to make decisions about students without their knowledge or consent, potentially leading to discrimination or bias. Additionally, there are concerns that AI-powered tools could be vulnerable to hacking or other security breaches, potentially putting student data at risk.

To address these concerns, it is important for educators and policymakers to prioritize student privacy and security. This may involve developing stricter data privacy policies and regulations, as well as investing in secure data storage and encryption technologies. Additionally, educators should be transparent with students about how their data is being collected and used, and should obtain their consent whenever possible.

### Equity and Access

Another important consideration when it comes to AI in higher education is the potential for these technologies to exacerbate existing inequalities in the education system. While AI-powered tools have the potential to provide more personalized and effective support to individual students, they may also widen the gap between those who have access to these tools and those who do not.

How AI influences Domestic and international student recruiting practices in higher education Artificial intelligence (AI) has the potential to revolutionize the way higher education institutions recruit both domestic and international students. Here are some ways AI can influence student recruiting practices:

**Targeted Marketing:** AI algorithms can be used to analyze large amounts of data to identify the most effective marketing channels and messages for reaching specific student demographics. This can help institutions to more effectively target prospective students and improve their marketing ROI.

**Personalized Communications:** AI-powered chatbots and virtual assistants can be used to provide personalized support to prospective students throughout the recruitment process. These tools can answer questions, provide guidance, and even schedule appointments, making the recruitment process more convenient and efficient for both students and recruiters.

**Predictive Analytics:** AI can be used to analyze student data and identify patterns that can be used to predict which students are most likely to apply, enroll, and succeed at a particular institution. This can help recruiters to focus their efforts on the students who are most likely to be a good fit for their institution and improve their conversion rates.

**Streamlined Application Process:** AI-powered tools can be used to automate and streamline the application process, reducing the time and resources required for both students and recruiters. For example, AI-powered application review systems can analyze applications and flag those that meet specific criteria, making it easier for recruiters to identify qualified applicants.

**Improved Admissions Decisions:** AI can be used to support admissions decisions by providing data-driven insights that can help recruiters to make more informed decisions. For example, AI algorithms can be used to analyze student data and identify factors that are predictive of success, such as academic performance and extracurricular activities.

When it comes to international student recruiting, AI can also help institutions to overcome some of the unique challenges associated with recruiting students from other countries.

For example:

**Language Translation:** AI-powered translation tools can help institutions to communicate more effectively with prospective international students, overcoming language barriers and improving the overall recruitment experience.

**Cultural Sensitivity:** AI algorithms can be trained to identify cultural differences and provide guidance on how to adapt recruitment strategies to better meet the needs and expectations of international students.

**Immigration Compliance:** AI can be used to streamline the immigration compliance process, making it easier for institutions to ensure that international students are in compliance with relevant laws and regulations.

However, it is important to note that while AI has the potential to improve student recruiting practices, it is not a silver bullet. AI-powered tools should be used to complement, rather than replace, human recruiters, as human touch and personal connection remain important aspects of the student recruiting process. Additionally, institutions must be mindful of potential biases in AI algorithms and ensure that they are using these tools ethically and responsibly.

How AI makes the college admissions process become faster and more personalized

Artificial intelligence (AI) has the potential to make the college admissions process faster and more personalized for both students and admissions teams. Here are some ways that AI can be used to improve the admissions process:

**Automated Application Review:** AI-powered systems can be used to automate the initial review of college applications. This can include reviewing the completeness of the application, flagging missing or incomplete information, and analyzing the content of essays or personal statements to identify strong candidates.

**Predictive Analytics:** AI can be used to analyze data on past admissions decisions to identify the factors that are most predictive of success. This can include factors such as grades, test scores, extracurricular activities, and personal characteristics. AI can then be used to predict which students are most likely to succeed at a particular institution and recommend those students for admission.

**Personalized Communication:** AI-powered chatbots and virtual assistants can be used to provide personalized support to students throughout the admissions process. These tools can answer questions, provide guidance, and even schedule appointments, making the admissions process more convenient and efficient for both students and admissions teams.

**Smart Decision-Making:** AI algorithms can be used to support the decision-making process by providing data-driven insights that can help admissions teams to make more informed decisions. For example, AI can analyze data on past admissions decisions to identify patterns and make recommendations on which candidates are most likely to be successful.

**Streamlined Workflow:** AI can be used to automate repetitive tasks, such as data entry, file organization, and communication, which can free up admissions teams to focus on more strategic tasks, such as building relationships with applicants and alumni.

By implementing these AI-powered solutions, colleges and universities can create a faster and more personalized admissions process that benefits both students and admissions teams. However, it is important to recognize that AI should be used to supplement, not replace, human involvement in the admissions process. Admissions teams still need to provide a personal touch and make subjective judgments on the merits of each applicant. AI should be used as a tool to support decision-making, not as a substitute for human judgment.

**How AI make Student retention efforts be more proactive than reactive**

Artificial intelligence (AI) can help colleges and universities to be more proactive in their student retention efforts by providing data-driven insights that enable them to identify students who are at risk of dropping out before it's too late. Here are some ways that AI can help:

**Early Warning Systems:** AI can be used to develop early warning systems that identify students who are at risk of dropping out based on a range of factors, including attendance, grades, and engagement. These systems can provide real-time alerts to advisors and administrators, enabling them to intervene and provide support to students before they drop out.

**Predictive Analytics:** AI can be used to analyze data on past student performance to identify the factors that are most predictive of retention. This can include factors such as academic performance, social engagement, and personal characteristics. AI algorithms can then be used to predict which students are most at risk of dropping out and recommend targeted interventions to help them stay on track.

**Personalized Support:** AI-powered chatbots and virtual assistants can be used to provide personalized support to students throughout their academic journey. These tools can answer questions, provide guidance, and even schedule appointments, making it easier for students to get the help they need to succeed.

**Timely Interventions:** AI-powered tools can help advisors and administrators to prioritize their interventions based on the severity of each student's situation. For example, AI algorithms can flag students who are at the highest risk of dropping out and recommend interventions that are most likely to be effective in each case.

**Continuous Monitoring:** AI-powered systems can continuously monitor student performance and engagement, providing real-time feedback to advisors and administrators on how students are progressing. This enables them to intervene early and often, rather than waiting until a student is on the brink of dropping out.

By using AI to develop a more proactive approach to student retention, colleges and universities can improve their retention rates and ultimately help more students to succeed. However, it is important to recognize that AI should not be used in isolation, but rather as part of a broader student support ecosystem that includes human advisors and other support staff. AI should be used to enhance human efforts, not to replace them.

How AI assist in improving the college's bottom line and reputational value will improve Artificial Intelligence (AI) can help improve a college's bottom line and reputational value by providing data-driven insights that enable colleges and universities to make more informed decisions, streamline operations, and enhance the overall student experience. Here are some ways that AI can help:

**Predictive Analytics:** AI can be used to analyze past performance data, enrollment trends, and other key metrics to predict future outcomes. This can include predicting which programs are likely to be most popular, which students are most likely to succeed, and which financial aid packages are most likely to be effective. By using predictive analytics, colleges and universities can make more informed decisions that maximize their financial performance.

**Resource Optimization:** AI can be used to optimize resource allocation, including faculty and staff time, course scheduling, and facility usage. By using AI algorithms to identify patterns and trends, colleges and universities can make more informed decisions about how to allocate resources in a way that maximizes efficiency and minimizes waste. This can help reduce costs and improve the bottom line.

**Enhanced Student Experience:** AI-powered tools can be used to enhance the overall student experience by providing personalized support, recommendations, and guidance. For example, AI-powered chatbots and virtual assistants can help students with everything from scheduling appointments to finding the right classes and resources. By improving the student experience, colleges and universities can improve their reputational value and attract more students.

**Targeted Marketing:** AI can be used to develop targeted marketing campaigns that are more likely to resonate with prospective students. By analyzing data on past recruitment efforts, as well as demographic and behavioral data, colleges and universities can develop marketing campaigns that are more effective at reaching and engaging prospective students. This can help increase enrollment and improve the bottom line.

**Reputation Management:** AI can be used to monitor social media and other online channels for mentions of the college or university, enabling administrators to quickly respond to negative feedback and protect the institution's reputation. By using AI to manage the institution's reputation, colleges and universities can improve their reputational value and attract more students.

Overall, AI can help colleges and universities improve their bottom line and reputational value by providing data-driven insights that enable more informed decision-making, streamlining operations, enhancing the student experience, and managing the institution's reputation. However, it's important to remember that AI should be used as a tool to support decision-making, not a replacement for human judgment.

### Applications of Artificial Intelligence

#### Virtual AI Teaching Assistant

A virtual AI teaching assistant is an artificially intelligent system that is designed to help students and instructors in educational settings. It uses natural language processing and machine learning to interact with students, answer their questions, and provide personalized feedback.

The virtual AI teaching assistant can be integrated into a variety of educational platforms, such as learning management systems (LMS), online course platforms, or virtual classrooms. It can communicate with students using text or voice, and it can be programmed to understand a wide range of student questions and provide answers or guidance accordingly.

Virtual AI teaching assistants can perform a variety of tasks to support students and instructors, including:

**Answering Student Questions:** The AI assistant can help students by answering their questions related to the course material, assignments, and other aspects of the course.

**Providing Personalized Feedback:** The AI assistant can provide personalized feedback on student work, including essays, exams, and other assignments. It can analyze student responses and provide suggestions for improvement.

**Monitoring Student Progress:** The AI assistant can monitor student progress and provide alerts to the instructor if a student is struggling or falling behind in the course.

**Engaging Students:** The AI assistant can engage students by asking questions, providing interactive activities, and facilitating discussions.

**Grading Assignments:** The AI assistant can grade assignments and provide feedback to students, saving instructors time and resources.

Virtual AI teaching assistants have the potential to transform the way that education is delivered. They can provide personalized support to students, reduce the workload of instructors, and improve the overall learning experience. However, it is important to note that AI should be used to supplement, not replace, human involvement in education. The virtual AI teaching assistant should be used as a tool to support student learning and instructor teaching, not as a substitute for the human element.

#### Intelligent tutoring systems

An intelligent tutoring system (ITS) is a computer-based instructional system that uses artificial intelligence (AI) and machine learning to provide personalized and adaptive learning experiences for students. ITS can provide feedback, guidance, and support to students, helping them to learn at their own pace and in a way that suits their individual needs.

An ITS typically consists of several key components, including:

**Content:** The content of the ITS includes the instructional materials, such as text, images, and multimedia resources, that are used to teach students.

**Learner Model:** The learner model is a database or model of the student's knowledge, skills, and abilities. The ITS uses the learner model to personalize the learning experience for each student.

**Expert Model:** The expert model is a database or model of the subject matter expertise that the ITS is designed to teach. The expert model is used by the ITS to provide feedback and guidance to students.

**Interface:** The interface is the user interface through which students interact with the ITS. The interface may include text-based chatbots, virtual agents, or other types of conversational agents.

**Assessment:** The ITS can assess student progress and provide feedback to students and instructors.

The intelligent tutoring system uses AI algorithms and machine learning to analyze the learner model and expert model to personalize the learning experience for each student. The ITS can adapt to the student's pace of learning, provide feedback on their progress, and adjust the difficulty level of the instructional materials to match the student's level of understanding.

Intelligent tutoring systems have many potential benefits, including:

**Personalized Learning:** ITS can provide a personalized learning experience that is tailored to the individual needs of each student.

**Improved Learning Outcomes:** ITS can improve learning outcomes by providing feedback and guidance that helps students to understand the material more deeply.

**Self-Paced Learning:** ITS can be used for self-paced learning, allowing students to learn at their own pace.

**Reduced Instructor Workload:** ITS can reduce the workload of instructors by automating some aspects of the teaching and assessment process.

Overall, intelligent tutoring systems have the potential to revolutionize the way that education is delivered. By using AI and machine learning, ITS can provide a personalized and adaptive learning experience that helps students to achieve their full potential.

### Artificial Intelligence and Smart Education

Artificial intelligence (AI) can have a significant impact on smart education by providing personalized and adaptive learning experiences, automating administrative tasks, and enhancing student engagement. Here are a few ways that AI can impact smart education:

**Personalized Learning:** AI can analyze student data and use machine learning algorithms to personalize the learning experience for each student. This can include adjusting the pace, difficulty level, and format of instructional materials to match the student's learning style and abilities.

**Adaptive Learning:** AI can analyze student data and adapt the learning experience in real-time to match the student's progress and performance. This can help to optimize the learning experience for each student, ensuring that they are challenged and engaged but not overwhelmed.

**Intelligent Tutoring Systems:** As I mentioned in the previous question, intelligent tutoring systems (ITS) use AI and machine learning to provide personalized and adaptive learning experiences. ITS can provide feedback, guidance, and support to students, helping them to learn at their own pace and in a way that suits their individual needs.

**Automated Grading and Feedback:** AI can automate the grading and feedback process, freeing up instructors' time and resources to focus on teaching and mentoring students. AI algorithms can analyze student responses, provide feedback on areas where the student can improve, and suggest next steps for learning.

**Chatbots and Virtual Assistants:** AI-powered chatbots and virtual assistants can provide instant support to students, answering questions and providing guidance on a range of topics, from admissions and enrollment to course materials and assignments. These tools can help to improve student engagement and reduce administrative workload for instructors.

**Predictive Analytics:** AI can analyze student data to identify patterns and predict future behavior, such as dropout rates or academic performance. This information can be used to develop proactive interventions to support students before they encounter problems, such as providing additional resources or personalized support.

Overall, AI has the potential to transform the way that education is delivered, making it more personalized, adaptive, and engaging for students. By using AI to automate administrative tasks and provide personalized support to students, educators can focus on teaching and mentoring students, improving learning outcomes, and enhancing the overall quality of education.

### Conclusion

In conclusion, the future implications of artificial intelligence (AI) in higher education are vast and varied. AI has the potential to revolutionize the way that education is delivered, making it more personalized, adaptive, and engaging for students. From virtual AI teaching assistants to intelligent tutoring systems, chatbots, and predictive analytics, AI can impact every aspect of higher education, from student recruitment to retention, teaching, and administration.

By leveraging the power of AI, colleges and universities can provide students with personalized learning experiences that are tailored to their individual needs and abilities. This can help to improve learning outcomes and increase student engagement, satisfaction, and retention. AI can also automate administrative tasks, reducing the workload of instructors and enabling them to focus on teaching and mentoring students.

However, it is important to note that the implementation of AI in higher education also comes with challenges and ethical considerations. Institutions must ensure that AI is used in a way that respects student privacy, maintains transparency and accountability, and avoids perpetuating biases or discrimination.

Despite these challenges, the potential benefits of AI in higher education are too significant to ignore. By embracing AI, colleges and universities can improve their bottom line, enhance their reputational value, and provide students with the skills and knowledge they need to succeed in a rapidly changing world. Therefore, it is crucial for educational institutions to explore and adopt AI solutions to stay ahead in the evolving landscape of higher education.

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**CHAPTER 23**  
**IMPACT OF COVID – 19 ON START-UPS IN INDIA**

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**ABSTRACT:**

Covid-19 has an adverse impact on the overall investment sector. All the businesses in all the sector and the start-ups in particular is the most vulnerable sector to face challenges from business and operations perspectives. They witness a decline in demand and supply, except those start-ups engaged in the delivery of essential products viz., gaming or streaming, educational technology, services etc. the lockdown measures as a response to curb the virus, threaten the existence of many innovative start-ups. The policy measures need to support the entrepreneurial eco system with ensured growth and rapid recovery.

Key Words : Cash burns, gig economy, delayed exits, downrounds

### Introduction:

Start-ups have become a very important part of Modern Indian economic system. Organizations like Twitter, Uber, Airbnb, Facebook etc have achieved billion dollar valuation in the recent past. Even though the start-up eco system is viewed as risky, the investors are willing to take risks in view of earning high returns through start-up investments.

In 2016, the Indian Government has begun a new initiative named – Start-up India, which helped to create an enabling environment to entrepreneurs. It provides support in 3 major areas viz:

- a. Providing financial subsidies and assistance
- b. Reducing the regulatory burden
- c. Providing an environment for Industry-academic partnerships through innovation labs establishment and organizing boot camps.

Many start-ups depends on Private funding as Start-up India funds have been invested in less than 1% of the start-ups in India. The funding and distribution of start-ups are concentrated in urban areas and the rural organizations have very few options. IT enabled Tech areas are attracting more amount of funding. Thus the success of start-up eco system depends on investments' diversification into various sectors like healthcare, agriculture, social series, education etc.

India has the potential to become a bright spot in the world economy because of the unmet demand of a large population. There is a disparity between what India has achieved so far and what it is capable of achieving. The pandemic has surely been a defining moment in the evolution of India's start-up scenario. There is an increasing requirement for digital solutions which again enables the development of new unicorns; however it is possible that many small start-ups are bound to fail. Booms and busts are a part of the start-up cycle. A few of the noteworthy start-ups like WhatsApp, Pinterest, and Uber were formed right after the 2008 Great Recession, so we can possibly witness the same pattern after the current financial crisis.

At present, India has the 3rd highest number of unicorns in the world, followed by USA and China. 10 more unicorns has been added in the year 2021 despite of 2nd wave of Covid 19. During the same period, one thousand six hundred new start-ups were added.

In the past couple of years, the start-ups in India have emerged as a great reckoning force with the efforts of stakeholders and government's initiatives to facilitate their growth. Investments in start-ups have increased from 550 million dollars in 2010 to 14.5 billion US Dollars in the year 2019.

The emerging market for private equity and venture capital in the world is Indian start-up eco system. Firms like SoftBank, Tiger Global, Naspers etc. are the prominent investors. With the new FDI rules, even though China has the biggest stake, India backs almost 18 unicorns.

As per the note of Black Swan of 2020, the start-ups need to be adaptable to be able to survive during the downturn. The Investments' value have decreased from 1.73 billion dollars in March, 2020 to 0.33 billion dollars in March 2020, which is approximately 81.1. %. The lockdown has impacted daily operations of the business and the start-ups need to prepare contingency plans for limiting work force and cutting down salaries of employees.

The situation is not optimistic for all the types of start-ups. As per the survey organized by NASSCOM in April 2021, 9 start-ups out of 10 witnessed a decline in the income, especially non-tech based start-ups.

With the global pandemic situation, online technology has been implemented and many business organizations have shifted online, thus the Venture Capital firms focussed on tech start-ups, the popular among them being Health Tech, Digital Insurance, Social Commerce, Fin Tech etc.

**Impact of Covid-19 on Start-up Eco System:**

**Cash Burn :** It is observed from the past several years that the investors are not hesitating in companies with negative cash flow, example – Twitter and Facebook have negative cash flows initially for a long time period. Few companies like Lyft and Uber has still negative cash flows. Such organizations have generous valuations among the investor community and the investors are looking forward to invest in ground breaking ideas.

**Delayed Exits :** The private equity and venture capital investors are willing to invest a large amount of money in organizations with a negative cash flow as they had an exit plan. They can exist with the help of public listing or selling their stake to others. Even when organizations like Groupon or Uber tries to list their stocks, they may receive a hefty premium. Presently, the Global stock exchanges are in turmoil. Many markets lost nearly 40% market capitalization.

**Downrounds:** The start-ups are likely to hit hard due to the inability of investors to exit previous investments, they may not be able to exit as the money is locked and this will affect future valuation rounds as less money is available to offer, it may affect the investors to skip future investments; Start-up parlance is a situation when the valuations are likely to be much lesser than what they receive in the past. It is the situation of downround. It is a sign of failure and it can be viewed as regular occurrence.

**Less demand :** Many economy sectors viz, retail, aviation, tourism and travel have shut down for a while. The Fintech organizations have faced a slowdown for some time. Many firms have faced the problem of dishonouring of old bills by the customers or clients.

**Gig Economy :** The major impact of Covid-19 is creation of gig economy wherein the labour markets depends on part-time or temporary positions which are filled by the freelancers and independent contractors rather than with full time permanent employees. It benefits the companies to avoid mandatory retirement benefits like provident fund, health insurance etc.

Thus, given these challenges, going forward, start-ups will have to become leaner and more resilient.

State's assistance to start-ups:

The Small Industries Development Bank of India (SIDBI) through its agency "Fund of Funds", have promulgated "Covid-19 start-up Assistance Scheme" – intends to provide support to eligible start-ups which has demonstrated successfully the ability to implement innovative measures to ensure business continuity amidst covid-19 crisis along with employee safety with financial stability.

The way forward:

Given the uncertain economic situations and global scale pandemic, fundraising for start-up firms will be a significant challenge in the future, as the investors choose to focus on the future as the investors would focus on their future fund deployments on the existing portfolio companies to ensure that they are able to tide over the existing global crisis.

Given the global scale pandemic and the uncertain economic situations spurred by it, there is a strong likelihood that fundraising for start-ups would become a significant challenge in the future, since various investors may choose to focus their future fund deployments only on the existing portfolio companies, in order to ensure that they are able to tide over the present global crisis.

Indian economy is heavily reliant on FDIs to sustain and fund various growth opportunities. In the post-pandemic era, where free and open markets are significant towards ensuring job creation and steady investment flow, strategies need to be formulated to prevent opportunistic acquisitions or takeover.

As the new investors may demand discounts or bargains over the value, start-ups are witnessing heavy negotiations in the value, it results in potential delays in deal closing and execution. The investors need to adopt a very cautious approach towards funding and insist on thorough commercial and legal diligence. They need to prepare contingency plans to sustain in the longer-runs.

Conclusion:

Countries like France and United Kingdom have announced a start-up relief package – it includes various measures like establishing funds to invest in start-ups and providing financial assistance or loans to start-ups. There is a need to establish effective monitoring system to access the utilization of funds provided by the Government, as start-ups play an important role in encouraging innovations among the entrepreneurs and generating employment opportunities. Given their vast potential, the established start-ups play a crucial role in shaping the future of the nation.

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## **CHAPTER 24**

### **IMPACT OF COVID 19 ON TOURISM INDUSTRY**

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#### **ABSTRACT**

The tourism industry was hit quite hard by Covid 19, which resulted in significant financial losses for the country. During the pandemic, the number of people travelling from other countries dropped by 84% because people were afraid of contracting a deadly virus. When compared to the numbers from the year before the Covid 19 phase, these current results show an increase. The most significant effect of this crisis has been a hit to the GDP. Because tourism is seen as an essential component of an economy, many nations throughout the world have experienced a decline in their ability to generate revenue and have lost a source of foreign exchange. All of the stakeholders, who are connected to the industry in a variety of different ways, believe this subject to be of the utmost concern. The virus quickly spread in contemporary times across the globe on a scale that had never been seen before, posing a significant threat to public health. This article is a general summary of the socioeconomic effects that the epidemic has had on the tourism industry.

### INTRODUCTION

The income generated by tourism represents a significant share of total global trade. It is widely acknowledged as being a significant contributor to economies all across the world. This sector of the economy is currently the one that accounts for the third biggest share of global exports. The global tourism business is responsible for the employment of 144 million people, many of whom are employed in the food industry. Particularly women, who make up 54% of the labour force and had their livelihoods taken away. It is possible that India's Covid-19 shutdown may result in the loss of 38 million jobs in the travel and tourist industry. Because India is the seventh largest country in the world and is filled with the splendour of its past, millions of visitors are drawn to visit India each year, which contributes to the growth of the country's gross domestic product (GDP). In this study, we investigate the corrective measures that can be taken to get over the crisis by examining its current and potential effects on the tourism business in India. This paper also examines how to rebuild the sector by ensuring the safety of tourists and workers, as well as how to alter the tourism industry through the implementation of improved reforms.

The tourism sector is unable to provide an accurate estimate of the effects of the Covid-19. Management, tourism industry professionals, and even policymakers were unable to accurately forecast such a massive loss during and after the outbreak. On a short-term as well as a long-term scale, we need to determine how severely the pandemic is affecting different parts of the world and on a geographical scale. The research provides insight into how to comprehend the magnitude of the possible impact and forecast the impacts of future epidemics on the tourism industry. In the days ahead, this will act as a guide for policymakers as they build policies strategically, taking into consideration the effects of post-pandemic situations and thinking about the sustainability of the tourism industry.

There is a degree of ambiguity about the estimation of the pace of virus propagation, its power of infection, the rate of mortality, and the future dynamics of the disease due to the fact that COVID-19 is a unique form of virus. However, this can change based on a number of factors such as the location, the social and economic conditions, the conditions of the health system, the conditions of the environment, and the level of competitiveness. The consequences of the pandemic can be approximated, at least to some degree. The research endeavours to look for unfavourable effects caused by the pandemic, and it also has plans to investigate the severity of those effects. By gaining an understanding of the amount of potential impact, one will be better able to estimate the magnitude of the current and future epidemic's effect on the tourism business. Despite this, innovations in health care will be an essential component in the fight against the pandemic problem.

According to the most recent study report published by the World Travel and Tourism Council (WTTC), the epidemic could put as many as 75 million people at danger of losing their jobs. According to research conducted, the potential loss of GDP attributable to travel and tourism in the year 2020 is up to US\$ 2.1 trillion. The length of time needed for the post-recovery period is directly proportional to the institutional capacity for effectively managing emergency situations. The effects of COVID-19 on the travel and tourist industry will be unprecedented compared to the pandemics that have occurred in the past. The global socioeconomic climate, the threat posed by terrorist organisations, and the state of international conflict are the primary elements that have an effect on tourism. In addition to this, the cost of energy as well as the state of the environment both have a significant impact on the amount of tourists from other countries who visit a particular nation. It is a difficult undertaking to measure the impact of a single aspect when it comes to tourism because of the seasonal nature of the industry.

The initial shutdown started in March 2020 and lasted through April of that year (from January 1, 2020 to April 1, 2020). In the second phase, it is anticipated that the lockdown will remain in effect from April 1, 2020, all the way through August 1, 2020. The pandemic was expected to be at its third and worst stage until the year 2020 came to a close. The domestic tourism business was hit hard by the enormous common shocks of the border closings, travel restrictions, and fears of pandemics.

**IMPACTS ON CULTURE AND NATURE**, which is the topic of COVID 19

During periods when things are running smoothly, we are in a position to preserve our nation's cultural and natural legacy while also generating revenue and preserving their standing and grandeur. Because there were no tourists or personnel around, there was an increase in illegal activity like hunting and poaching. There are less opportunities for cultural and spiritual meetings at heritage sites. Throughout the duration of the pandemic, 90% of countries have shut down museums and sites that are part of the World Heritage List. The money earned by women was negatively impacted as a result of the decline in sales of handcraft products.

### CONCLUSION

The decision-makers in the tourism business ought to devise a process for the development of strategy in order to combat any future pandemic crisis. To accomplish this, people need to educate themselves on the nature of the situation as well as its full scope. The government ought to take the initiative and provide financial support in order to maintain the viability of the tourism business. However, the possible repercussions of the COVID-19 pandemic are distinct from those of previous pandemics, and the recovery of the tourism industry around the globe will require longer time than the typical predicted timeframe of 10 months for recovery.

It is important for decision-makers in the tourism business to educate themselves on the real-time parameters of COVID-19 as well as the impact the pandemic would have on the tourism industry. An economic strategy that estimates and accepts economic losses, cares for and protects health, supports tourism as well as staff and workers who have experienced a sudden loss of income, and plans for the stability of economic capacity.

Our research reveals that pandemic crises have detrimental consequences on the tourism industry as well as the economy that continue for an extended period of time. It is estimated that the negative impacts will be significantly worse than those seen during previous pandemic crises. Effective contingency plans need to be developed by policymakers in order for them to be able to respond quickly and effectively to any future pandemic emergencies that may arise. According to the findings of our research, the pandemic impacts of COVID-19 on the tourism business have the same effect as the effect of a common shock. Cooperation, rather than competition, and a reduction in the price of COVID-19 should be part of any effort to revitalise the travel and tourist business.

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## **CHAPTER 25**

# **THE COVID -19 PANDEMIC OUTBREAK POSES PROBLEMS AND POTENTIAL FOR ONLINE LEARNING IN ENGINEERING EDUCATION**

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**Abstract:**

A practical's section online course video, third part learn materials, Assignments, quizzes, examinations, and group projects are the fundamental components of all new difficulties in engineering education. Dissociation, Task, and Role Playing Exercises, Third Party Live Streaming Sessions, Virtual Lab Sessions, Preparation of Question Bank, Paper Lab Manuals, and the Like.

The COVID 19 epidemic has posed a number of obstacles, including those regarding the fundamental teaching method and the learning process. It is very important that students and teachers organise themselves in order to understand and finish the course material.

The second factor that was maintained was the high standard of instruction, many activities were upgraded, and fundamentally new thoughts were developed regarding how to supervise activities during lockdown periods. Immediately after receiving information from the government of all states on March 16, 2020, all educational activities were halted, and the first lockdown period was declared to last until the end of March 23, 2020. Lockdown has begun across the entirety of India. During the time that people were allowed to work from home, every university and even the directorate of technical education began conducting specific online activities.

### Introduction:

Effectiveness of online activities and the actions taken by institutions, teachers, head of the departments, and principals during the lock down period. This was done in order to ensure that students remained safe and that educational institutions were held accountable for their actions.

a) Online Courses: these kinds of classes are taught by teachers using various kinds of online platforms, such as NPTEL Sway am and courser.

b) Different learning tools, such as audios and films made by staff and students (for example, MITWS RADIO and AUTO CAD sessions);

c) Audio, video, and other educational tools play an extremely essential role in facilitating a better knowledge of the topic among faculty members.

d) Assignments: several forms of online questions, including two-line, descriptive, and multiple-choice tests; group discussions with a variety of role-playing activities; recordings of these activities; etc.

e) Live streaming sessions provided by a third party: for example, it is possible to watch all of the lectures and diagrams one on one, and there are more than students who live attended the seminar and are participating in the study exchanges.

f) Virtual lab sessions: it is abundantly evident that both IIT and NIT labs are readily available.

g) The preparation of a question bank with objectives for all papers, as well as papers with short answers, long answers, and lab manuals for all types of languages, such as CAD, CAM, and AUTOMATION.

h) During this time period of work from, information was also required regarding administrative tasks such as NBA and NAAC, in addition to various laboratory development projects. All commits.

Learning challenges constrained by the following:

Learning in isolation in order to keep a social distance led to the development of better communication methods that enabled the sharing of information and technology. Digital Learning wireless tools such as internet connectivity through laptops/desktops/smartphones, together with supplementary applications such as Zoom/Google Class Room/Edflylearning./What's-up etc. This worthy social cause is receiving backing from the government in the form of airtime on public communication platforms like radio and television. Also, in order to accomplish this goal, the Ministry of Human Resources Development (MHRD) Initiatives have created programmes like as SWAYAM (a distant learning programme offered by NPTEL) and DIKSHA (a digital infrastructure for knowledge sharing). International COURSES and EDUCATION FOR EVERYONE in COURSERA are now available, sponsored by universities from around the world and housed on a single platform in COURSERA. There is information about the COVID-19 epidemic available in the school system.

Academic Continuity: All of the Universities and Institutes are left with the single option of remote learning through wireless connectivity (internet) in order to guarantee that the curriculum will not be disrupted as a result of the pandemic situation caused by the Ebola virus. Covid-19.

Using cutting-edge software applications such as Zoom, Google Class Room, EdyflyLearning, and others for the purposes of organisation and governance. in order to keep track of the pertinent facts, such as the number of lectures given, attendees, and submissions finished, etc.

Both in terms of structure and delivery:

Infrastructure Availability Wireless connectivity is offered by the institute, and there is an official link that all of the teaching staff as well as the students can use to connect to the internet.

Classrooms equipped with Audio Bridge: A fully equipped classroom located at the home of each student, with the parents taking on additional responsibility for resolving any initial questions or concerns. One more former student of a nursery school now enrolled in an online course as an alternative to traditional classroom instruction

Teaching criteria and skills: Use of slides, animations, and videos in significant amounts to facilitate an effective grasp of the subject. The teaching standard is monitored by the feedback report from the pupils.

Flexibility in both the curriculum and the evaluation process: Report on the completion of the syllabus, including a comparison with the intended date and an explanation of the steps that need to be taken to meet the completion deadline on time

The experiences of many people throughout the world who work in, with, or study at a university have changed significantly during the past year. Some of us were used to contributing to the provision of higher education "remotely," "at home," or otherwise at a geographically and technologically defined "distance" from our employment base and study home before the crisis and the rush to online teaching and learning.

Some of us have rediscovered, both personally and professionally, how, "pre-COVID," geography, demographics, and politics had combined to encourage national governments to establish, licence, and to varying degrees, subsidise online universities - a pattern of higher education (HE) provision and delivery that was already well established in nations like Russia and Canada, where geographic distances had long shaped and given rise to. Geographical realities can be complemented by social and technical distances. For example, many students choose to attend university "from a distance," which gives them the flexibility to care for their families or work full-time jobs while they are in school.

Now, I can confidently assume that many readers of this magazine will be accustomed to corresponding with students (current and prospective), co-researchers, and other colleagues using communication tools like Zoom, Skype, Teams, and Meet Now while I write this piece. The question of whether investing in a "higher" education will actually be "worth it" is one that students who have not yet fully established themselves in stable employment or along a reliable career path understandably ask themselves. Will the rising costs and expectations ever match and secure a return on individual investments? Naturally, these inquiries affect the students' relatives and friends as well as, perhaps more thoughtfully, the businesses throughout the world that might hire them after they graduate.

As a result, and whether from the perspective of HE providers or customers, we are all compelled to revisit fundamental concerns like: What is a university? Why, for whom, or for what are universities? What does HE's future hold? Accordingly, what are the goals and prospects of universities as well-known providers of HE at a time when society is attempting to come to terms with a "new normal" of technologically advanced, socially, economically, and (as we demonstrate in this review essay) ethically motivated values and practises?

For example, when comparing HEIs as organisations seeking revenue through procedures of international student admissions encouraged or even supported by national governments that seek to use the rewards of these efforts as a potential source of inward-bound foreign direct investment (FDI) along with the improvement of national and regional revenue and reputation, the threats to HE as a business sector and (for example) are calculable, quantifiable.

By posing such questions, institutional providers of HE can, in terms of strategic business, be seen as facing comparable opportunities and challenges to businesses that have been able to maintain and strengthen their supply and distribution chains and present themselves as more likely to survive current and future crises. In other words, particular institutions are more likely to be viewed by investors as appealing and consequently sustainable, or as "worth saving," and by students in their capacity as "consumers" of HE.

So what would society's members be "saving"? What is the value of a university education? What is a university actually worth? Families are of course a part of this conversation, particularly in the relatively youthful populations of Vietnam and Indonesia. Members of societies where employment has been sporadic and aspirations of a "career" seem to have stagnated are equally pertinent to the subject. For instance, in the UK, some are considering 'doing' a so-called 'panic Masters,' when they enrol for a Masters degree in the hopes of getting through a year or two of forced unemployment and, ideally, making themselves more marketable for secure employment after graduation.

Initially, the collegia that developed into universities were exclusive: guilds, clubs, and other closed networks for the exchange of "insider" information as well as social and political influence. One indicator of social progress was the opening up of the collegia: globally, "education" came to be seen as both a basic human right and, less idealistically, as a means of producing an educated workforce, which is now perhaps more flatteringly referred to as "knowledge workers." Despite these advancements, access to higher education is still a problem for many young women around the world.

In conclusion, the only teaching strategy that is currently accessible in this pandemic situation is the one that has been described above; nevertheless, there is a significant amount of room for creative ideas to improve upon this teaching process.

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## **CHAPTER 26**

# **AN EXAMINATION OF TEACHERS' ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN SCHOOLS**

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### **Abstract**

Today's professional work in schools is so complicated that organisational civic behaviour cannot be legally outlined in contracts, job descriptions, or appointments for teachers. Consequently, it's crucial to learn more about how teachers can develop organisational civic behaviour. After mastering the ethics in job responsibility, effectiveness, and good attitudes, organisational citizenship behaviour is the positive state of behavioural construct that enables the teacher to be deeply active in doing voluntary tasks to fulfil individual and organisational goals. Business organisations and management contexts generally examine organisational citizenship behaviour. Yet, educational scholars are also interested in this variable. According to studies under this dimension, organisational civic conduct and student accomplishment are significantly correlated. It has a good association with organisational commitment, leadership, organisational justice, and work satisfaction. The review also demonstrated that organisational citizenship conduct is influenced by instructors' psychological empowerment, and that organisational citizenship behaviour will rise as coworker support increases. While the top and lowest evaluations are to dedicate its components, several studies additionally focused on organisational civic behaviour elements including politeness, kindness, and courtesy. Also, it was discovered that organisational citizenship behaviours are positively impacted by teachers' evaluations of the quality of their working environment. It would not be incorrect to state that organisational citizenship behaviour has a favourable relationship with teachers' individual and organisational performance and helps to improve organisational effectiveness and efficiency. Hence, practising organisational citizenship gives teachers internal desire to accomplish organisational goals.

**Keywords:** Organizational citizenship behavior, work accountability, effectiveness and attitude

### INTRODUCTION

People are a cultural species. They change as time goes on throughout the colonies, tribes, and cultures. Humans indulge themselves to create an organisation as time goes on and education rises. It is a structured kind of society where people can learn appropriate behaviour, how to respond, and how to adapt. These groups may be commercial, academic, private, or governmental. Here, management, stakeholders, students, teachers, authorities, etc. are combined to form the educational organisational structure that we are concerned with. It indicates that the operation of the organization depends on these people working together. The school is the most appropriate, specialised, and official institution the society has created for educating the next generation. Teaching has taken on a crucial role in today's complex educational system. The demands of this profession, which calls for particular competences and a responsible attitude towards their tasks with ethical behaviour, have expanded with the passage of time. The main focus is on behaviours, attitudes, beliefs, ethics, and morality in order to attain an organisational purpose. These variables, which go by the name of, have drawn the attention of numerous scholars, corporate citizenship activity. These days, the school curriculum includes various behavior-related activities that are followed by teachers and passed on to younger generations.

### ACTIVITIES OF ORGANIZATIONAL CITIZENS

Employees that exhibit organisational citizenship behaviour go above and above the duties that have been assigned to them by their employer. Individual action that is discretionary, not immediately or explicitly acknowledged by the formal reward system, and in the aggregate supports the efficient and effective operation of the company is commonly referred to as organisational citizenship behaviour (Organ, 1988, p. 4) "Organizational citizenship behaviour" is the most significant among the stressed and researched subjects with regard to the organisations' capacity to work with high performance, increasing the efficiency, making extra efforts by working beyond expectations, and presenting an organisational behaviour committed to organization's vision, mission, values, and goals by fostering the culture of "we are a big family" among employees (Bateman and Organ, 1983; Organ, 1989; Organ and Konovs, 1996). Dennis Organ initially outlined organisational citizenship behaviour as "an individual action which is not recognised by a formal incentive system but which, when joined with the same behaviour in a group, results in effectiveness" in 1988. According to Organ (1988), organisational citizenship behaviour is "individual behaviour that is discretionary, not immediately or openly recognised by the formal incentive system, and that, taken as a whole, encourages the organization's efficient operation. Three key characteristics of organisational citizenship conduct are emphasised in this description.

First, the behaviour must be voluntary; it cannot be mandated by a role or be a requirement for performing official tasks. From an organisational standpoint, the behaviour also benefits the organisation. The key takeaway from this is that organisational citizenship behaviour is behaviour aimed at, or perceived as benefiting, the organisation rather than behaviour that just happens by accident within an organisation. The third is that organisational citizenship behaviour is multifaceted.

### BEHAVIOR OF ORGANIZATIONAL CITIZENS IN ITS DIMENSIONS

Organizational citizenship behaviour variables have many different definitions and classifications, yet they all have a lot in common. Organ's provides the most useful definition and taxonomy of organisational citizenship behaviour. According to Organ (1988), organisational citizenship behaviour is wholly a voluntary behaviour that is not directly or indirectly recognised by an awards system, but rather improves organisational effectiveness. It is made up of kindness, loyalty, civility, tolerance, and altruism. Altruism is beneficial conduct like developing a closeness and empathy among coworkers. It also indicates that an experienced staff member will actively and cheerfully assist a new hire. The term "courtesy" relates to the ability to influence personal and independent behaviour. Tasks can be completed successfully by making efficient use of resources and time. Being aware of the fact that one must perform their duties voluntarily and without expectation by other people. arriving at work on time, managing your time well, following workplace regulations, and acting with sportsmanship. Sportsmanship entails not objecting to or complaining about the tasks given to you by your superiors or coworkers. It suggests that one should accept responsibility for their mistakes and be willing to assist others whenever they need it. Civic virtue entails taking an active role in organisational operations while prioritising organisational objectives and interests.

### FOR TEACHERS, ORGANIZATIONAL CITIZENSHIP BEHAVIOR IS ESSENTIAL:

The need to adapt new tactics that make the best use of human resources to fulfil organisational functions in the age of globalisation and intense competition helped educational organisations. The company must establish a supportive environment where teachers can feel intellectually, physically, and emotionally comfortable. The institution won't flourish until its employees start working regularly and using all available resources to help the organisation reach its goals. The most crucial and fascinating behaviour exhibited by instructors to accomplish organisational goals and further their own development is organisational citizenship behaviour. As they demonstrate cooperation and mutual understanding with one another, it will help to strengthen the compatibility among coworkers. Organizational citizenship conduct is woven throughout the curriculum, which is advantageous to the assigned work and won't be perceived as an additional responsibility. Corporate citizenship behaviour demonstrates virtues such as discipline, sportsmanship, and civic responsibility, among others, and this adds to organisational success.

Corporate Citizenship When it comes to the organisational skills needed to work at a high level and increase student achievement, behaviour is the most crucial factor among teachers.

efficiency, putting forth extra effort by going above and beyond the call of duty, and exhibiting Organizational Citizenship behaviour by fostering a culture of "we are a big family" among employees by committing to the organization's vision, mission, values, and goals (Bateman and Organ 1983; Podsakoff et al. 1990; Dipaola 2005 and Avci 2015).

The literature review reveals a number of characteristics that can affect teachers' organisational citizenship behaviour. Depending on the teacher's attitude, they may participate in volunteer activities on the school site. Positivity about oneself improves organisational citizenship behaviour. Teachers' organisational citizenship behaviour is influenced by supervisory methods. The organisational citizenship behaviour is influenced by supportive and collaborative supervisory techniques. The instructors' sense of duty is intimately tied to their organisational citizenship behaviour. A responsible teacher impacts not just the learner but also the management and stakeholders. Consider that the pillars of organisational citizenship behaviour are the belief system, ethics, and morality. A teacher's organisational citizenship behaviour activities are high if he or she is dedicated to his or her job or to management. Teachers' organisational citizenship behaviour is always influenced by organisational support. Organizational citizenship behaviour is directly influenced by manager/supervision support mechanisms like rewards motivation. Organizational citizenship behaviour is also influenced by the teacher's professional ethics. The foundation of these volunteer efforts by the teachers within the organisation is ethics and attitude.

Organizational citizenship behaviour refers to the extra things a teacher does for a company outside of their official duties. A trigger for improving corporate citizenship behaviour is always praise or recognition in the form of rewards.

The organisational citizenship behaviour is high when the teachers are happy with the work they do or with the pay they receive. The organisational citizenship behaviour is also influenced by the leadership practises and style. The organisational citizenship behaviours of the instructors blossom under friendly, persuasive, and upbeat leadership. Activities relating to organisational citizenship behaviour should be woven throughout the curriculum so that teachers are not required to carry out these tasks. The demand from within the organisation to carry out these tasks precisely may make it harder to accomplish the objectives of the firm.

The concept of organisational citizenship behaviour has many facets. This variable has been investigated alongside numerous others in recent years, including school climate, leadership styles, teacher expectations, job satisfaction, organisational commitment, occupational stress, and organisational justice, among others. The extremely limited empirical and theoretical investigation into organisational citizenship behaviour in a setting of education has, nevertheless, made this observation. The extensive examination of the literature investigated how much the school climate affects organisational citizenship behaviour. The views, values, and behaviours of all those associated with the school, including students, administrators, instructors, and parents, make up the school atmosphere. There is a significant positive correlation between

Organizational citizenship, student climate, and behaviour (Dipaola 2001). We all know that both instructors and children are impacted by the school climate. If we care about the students, then a safe, secure, and all-encompassing school environment will undoubtedly have a good impact on their academic performance. The evidence also shows a substantial correlation between organisational civic behaviour and student accomplishment (Jurewicz 2004). Teachers serve as the foundation for both the accomplishments of pupils and the success of an organisation. Compared to high school instructors, elementary teachers and middle school teachers exhibit more organisation and civic virtues, according to the literature (Dipaola 2001). Because demographic criteria like age, experience, and location have little impact on people's willingness to participate in organisational activities. Without the leader's oversight, no organisation will succeed. Activities that help instructors function better in a classroom setting are those that involve supervision. The head of the school conducts these activities, which contribute in enhancing their methods of instruction, making proper use of tools, and keeping them up to date. Also, it increases teachers' performance and job accountability. Transformative leadership, on the other hand, is built on past experiences and traditions, whereas transactional leadership is focused on future innovation, change, and reforms. Organizational citizenship behaviour benefits from transformation leadership (Nguni 2007). Leadership elicits extraordinary results from followers by supplying both meaning and comprehension. (2021 Jameel) A positive school environment that values teachers' efforts promotes innovation among teachers that immediately display more exemplary organisational citizenship behaviour. Trusting teachers and including them in decision-making processes improves their quality of work life, which promotes teacher effectiveness and empowerment (Chaturvedi 2012). The relationship between teachers' involvement in decision-making and organisational citizenship behaviour is mediated in a significant way by the empowerment of teachers (Begeer 2004). Teachers who take on unpaid extra work also report increased job satisfaction (Oplatpa 2009). Also, they aid in enhancing school morale and reputation.

Employees feel at ease knowing they are in the hands of a caring and secure business when there is a positive work environment and supportive leadership (Novitasari 2020), which motivates them to perform above and above their duties and responsibilities. Workplace flexibility contributes to job satisfaction. Employees are motivated to go above and beyond organisational expectations by their job happiness, competent leadership, and a great work environment (Bismala 2019). For instance, when an employee thinks that their employer cares about their growth and development in terms of pay, incentives, prizes, and appreciations, they are happy to respond by adopting positive attitudes and behaviours that support organisational citizenship behaviour. On the other hand, workplace stress can happen when firms don't care for their employees' development, and this has a detrimental impact on how they behave as corporate citizens (Zamir 2011).

So, organisational citizenship conduct helps to bring about positive changes in teachers' daily behaviour, which has an impact on both the academic performance of pupils and the teachers' own mental health. Teachers are intrinsically motivated to accomplish organisational goals by engaging in good organisational citizenship behaviour.

### MAJOR RESULTS:

A thorough review revealed that social science researchers are also interested in this characteristic. The following is a summary of some key findings with regard to the educational context:

The organisational citizenship behaviour is also increased when teachers are involved in policy decisions (Beger 2004). Organizational citizenship behaviour is positively influenced by job satisfaction and organisational commitment. (Ozdem 2012). When it comes to demographic factors, such as age, marital status, type of school, location, experience, and others, experience and gender show a positive relationship with organisational citizenship behaviour, which means it positively affects organisational citizenship behaviour. However, age and marital status have no significant relationship with organisational citizenship behaviour (Kaur 2017). Compared to private school instructors, government school teachers exhibit higher organisational citizenship behaviour in terms of the type of institutions ( Deepaena 2015) Organizational citizenship behaviour and school atmosphere have a significant association. teachers in middle schools and elementary schools demonstrates better organisational civic behaviour than teachers in high school. in 2001 (Dipaola). Organizational commitment, work happiness, and organisational citizenship behaviour are all positively impacted by transformational leadership. as opposed to transactional leadership. (Nguni 2007). Academic staff job satisfaction and organisational citizenship conduct are negatively correlated, as are occupational stress and organisational citizenship behaviour. (Zamir 2011). a strong and significant correlation between corporate citizenship activity and professional and organisational commitments.

Organizational citizenship behaviour and support manifestations have a strong positive link. Also, it was discovered that organisational citizenship behaviour grows when coworker support does, and vice versa. 2013 (Krastev). In order to dedicate the politeness, kindness, and civility, organisational citizenship behaviour components such as politeness, kindness, and courtesy are rated from highest to lowest in terms of gender, education level, and work experience. 2014 (Rajabbaigy) Conclusion and suggestions

We can draw the conclusion that organisational civic behaviour occupies a crucial position in teaching materials. Education and teaching are tertiary social functions, therefore they maximise societal facilitation. But, instructors must also do a variety of other duties in addition to teaching. Organizational citizenship behaviour refers to the teacher's volunteer actions for the organisation. These jobs are often integrated into daily operations in some firms, therefore they shouldn't be seen as an additional burden or source of labour for them. Corporate citizenship behaviours like sportsmanship and benevolence.

Teachers at some educational institutions frequently model ethics, cooperation, civic virtue, etc. As a teacher's influence lasts forever, the voluntary work that they do actually helps the students develop good character traits like loyalty, courtesy, helping others, empathy, sportsmanship, etc. since these traits will certainly be passed down to the next generation. These well-groomed members of society contribute to the formation of a cultured and well-groomed society. Since it will introduce a new construct for K–12 schools that helps to explain the social processes of successful schools, the research of this variable will undoubtedly break new ground. Learning that encourages improved organisational citizenship will benefit teachers and school administrators in ways that will result in more productive classrooms. Finally, it is important to recognise the significance of these activities. The elements to improving organisational citizenship behaviour among instructors are reward, praise, and recognition. When formulating the criteria for evaluating teachers, policymakers should keep in mind the significance of these tasks. In order to ensure that all members of the teaching profession adhere to the moral standards outlined in the Code of schools, a proper method must be developed.

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## **CHAPTER 27**

# **CORPORATE FINANCE AND RESEARCH ACROSS GLOBE, STUDY THROUGH STOCK MARKET PERFORMANCES: SCENARIO AS TO PRE-COVID**

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Corporate finance is concerned with the financial and investment choices made by the management of businesses in order to maximise the value of the wealth of the shareholders. Yet, because ownership and control are separated, management objectives are followed at the stockholders' cost. Financial managers that make sane dividend decisions, financing decisions, and investment decisions increase shareholder wealth. The board should also be active and collectively responsible for the corporation's long-term performance.

Corporate finance is associated with both the effective and successful administration of the company's financial resources in order to achieve the company's goals. This includes predicting and monitoring the capital supply (where funds are raised), as well as the distribution of money. (Where resources are allocated), and the management of resources (whether or not monies are spent efficiently) (Watson and Geeras Head 2016). Three guiding principles form the foundation of corporate finance: the investment principle (which determines where conglomerates invest their money), the financing principle (which controls the mix of debt and equity put up to finance investments), and indeed the dividend principle (which determines how much of earnings should be spent wisely back into the company and how much should be paid to the shareholders of the conglomerate) (Damodaran 2014). The primary goal is to increase the wealth of the capital suppliers, particularly investors (Vernib nmmen et al. 2018). Hence, increasing value is the key to financial management success (Brealey et al. 2018). Legally, Because of their fiduciary duty to the owners, managers are required to put the shareholder's interests ahead of their own objectives (Parrino et al. 2011).

But, because ownership and control are divided, businesses support managerial objectives at the price of shareholder interests (Ross et al. 2015). A dispute of this nature involves an entitled agency (Ross et al. 2017).

Corporate governance emphasizes the internal structure and rules of the board of trustees, the creation of independent investigation committees, and the issues that arise from the divide of ownership and management norms for managerial supervision, information reporting to lenders and owners, and (Fernando et al. 2018). In order to achieve the highest degree of efficiency and efficiency for the organisation, corporate governance supervises and monitors corporate activity, takes stakeholders' interests into account, promises for a trustworthy business conduct, and considers stakeholder interests (Plessis et al. 2011). Thus, companies have a duty to the entire community, the next generation, and the environment (Solomon as well as Solomon 2004).

The orientation of choices that satisfy several conflicting objectives that demanding stakeholders present before a finance director is greatly influenced by capital structure rules (Agarwal 2013). About the documents pertaining to capital Vintila et al. (2019) found that the structure of firms in the technology sector that are listed on the New Yorks and Stock Exchange (NYSE) has a significant impact on variables like aesthetic value, growth, size, or liquidity. Moreover, Kedzior et al. (2020) came to the conclusion that the capital structure of enterprises listed on the Warsaw Securities Exchange is determined by liquidity, company age, and investment opportunities in innovativeness categorised as high-tech businesses. Ntoug et al. (2020) shown for a sample of 848 Spanish privately held small and medium-sized businesses that family businesses often utilise less debt financing than non-family businesses and maintain a lower level of debt.

Dividend pay-out ratio are a type of finance choice that affects how much of an organization's earnings are distributed to investors relative to the percentage it retains and reinvests (Baker 2009). Dragota as well as Delcea (2019) proposed an approach to dividend policy that Using an agent-based model, researchers looked at how long it takes people to consistently make poor judgements and found that it can take a very long time. Pinto and Rastogi (2019) discovered that firms with a greater size, higher interest rate coverage ratio, and competitiveness, but low business risk and debt, are likely to issue higher dividends in India based on balanced data including 424 companies out of the NIFTY 500 NSE-index.

Moreover, a good corporate governance or buyback is another approach to provide investors cash (Berk but instead DeMarzo 2017), with the popular option being an open market share buyout that requires shareholder approval either after a shareholders' meeting or before the director's meeting (Vermaelen 2005). According to the study by Ding et al. (2020), for the USA as a whole, corporations that reiterate their recapitalization programmes register increased development opportunities, have more free cash flows, seem to be more profitable, are less undervalued, are larger, and show drastically reduced continuously compounded announcement period returns than companies that do not.

Businesses face a wide range of hazards that might affect how their operations turn out (Hopkin 2017). Nonetheless, the financial risk brought on by uncertainty may be managed (Crouhy et al. 2006). In addition, to settle resource acquisitions and Businesses need cash to conduct their everyday operations (Paramasivan and Subramanian 2009). About the risk-related papers, Nguyen Thanh (2019) examined 306 non-financial businesses listed on the Vietnamese Stock Exchange and made the point that a percentage of shareholders' wealth within a range of 9.93% can help increase a company's efficiency. Chen et al. (2020) demonstrated using a sample of 1630 multinational corporations outside of the United States that pension inducement should encourage CEOs to more effectively monitor businesses' risk. Tefko et al. (2020) provided evidence in favour of the claim that the variance decomposition analysis (DEA) approach is a suitable substitute for forecasting the failure of the investigated sample for the 497 enterprises operating in Slovakia's heat supply industry.

The financial reports are used by internal and external stakeholders to make choices (Gibson 2007). Based on a survey given to 80 professional accountants, the majority of whom were members of the Chartered Accountants of the Republic of Cameroon (ONECCA), Fossung et al. (2020) stressed that financial statements prepared in accordance with the International Standards for Financial Reporting (IFRS) are better suited to trying to present a realistic and equitable perspective.

Intangibility, complexity, and responsibility are the three key characteristics that distinguish the corporate brand as a unique area (Ind 1997), and its subjects are the entire people who are interested in the product offer (Ormeo 2007). Corporate identity helps businesses to use its traditions and principles as a marketing tool and as a promise of quality to the marketplace (Roper and GAMES Fill 2012). Therefore, the study conducted by Barros et al. (2020) showed that the three aspects of trust, commitment, and motivation are included in the idea of brand partnerships.

Additionally, by assigning managers who are innovation-focused, creating incentives in the educational and technological enterprise, and luring associates to the share capital to take on new business initiatives and thereby mitigate risks, the governance structure can change can affect results with regard to innovation ( Rangone 2020). Small and medium-sized companies (SMEs) in the European Union were the topic of a research by Bach et al. (2020), which discovered that SMEs from either the new member states aim to catch up with SMEs from countries with a greater degree of development by focusing on product developments.

Moreover, Aluchna and Kuszewski (2020) investigated conformity announcements for a sample of 155 Warsaw Stock Exchange-listed businesses and discovered a detrimental and statistically significant link between corporate governance compliance and corporate worth. In their study of 77,212 private SMEs in Estonia, Lukason and Camacho-Miano (2020) found that the appearance of women on the board, older managers, longer length of service, and a higher percentage of board members owning stock all contribute to a decreased likelihood of missing the deadline for submitting the annual report; however, the existence of more business connections and a majority owner has the opposite effect. The manuscript of Gruszczynski (2020) examined 1194 businesses from 18 European nations with regard to corporate board gender diversity and discovered that female.

Kjaerland et al. (2020) observed that board independence and share ownership had a positive impact on earnings management for a sample of 168 companies that are listed on the Oslo Stock Exchange.

Ownership by directors had a good impact on managing earnings, although neither board activity nor directors' majority ownership had a statistically meaningful impact. Koji et al. (2020) investigated 1412 Japanese manufacturing enterprises in relation to the effect of corporate governance on company performance and found that institutional shareholding and foreign ownership improve the financial results of both family and non-family businesses.

For 2248 Chinese A-listed companies, Rashid Hamid Khan et al. (2020) found that good corporate governance and ownership concentration had a positive moderating effect on the relationship between agency costs and firm performance, while non-state (state) ownership of companies had a positive (negative) moderating effect.

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## Chapter 28

### Study of change in consumer buying behavior towards online educational products post COVID-19

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#### **ABSTRACT**

There has been a paradigm shift in the delivery of education as a result of the Corona pandemic over the last couple of years. Online education has made rapid strides given the norms of social distancing and lockdowns. Closure of physical classes paved the way for online education in a big way and this created a big opportunity for online educational products. Names like Byjus, Vedantu, Unacademy, Zeus Learning, Eduncle, Toppr, Study IQ, Doubnut, and others became popular in quick time. Enrolments for online coaching classes saw a phenomenal rise in the backdrop of COVID-19. The buying behavior towards online education products that was complex and infrequent earlier has now become habitual and variety seeking. In this paper we have attempted to map this change by way of a survey of 100 parents who are buyers of online education products. Findings corroborate the hypothesis that there is a change in the type of buying behavior towards online educational products due to the pandemic.

**Keywords:** Consumer buying behavior, Online educational products, Complex buying behavior, Habitual buying behavior

## INTRODUCTION

With the COVID-19 - a unique Covid infection spreading across the globe, numerous nations have gone for closure of institutions engaged in educational activities. Instructive organizations have gone for a halt since they needed to safeguard their students from viral infection, which are possible in an exceptionally mingling student local area. In the start of February 2020, schools just in China and a couple of other impacted nations were shut because of the multiplying tainting. Nonetheless, by mid-March, almost 75 nations have executed or reported closure of instructive establishments. As on tenth March 2020, school and college terminations internationally because of the COVID-19 have avoided one of every five students with regard to school. As indicated by UNESCO, before the finish of April 2020, 186 nations have executed cross country terminations, influencing around 73.8% of the absolute enlisted students (UNESCO, 2020). Despite the fact that the lockdown and social distancing are the main approaches to log jam the spread of the COVID-19 by breaking the chain of transmission, shutting down of educational institutes has impacted huge number of students.

There has been a paradigm shift in the delivery of education as a result of the Corona pandemic over the last couple of years. Online education has made rapid strides given the norms of social distancing and lockdowns. Closure of physical classes paved the way for online education in a big way and this created a big opportunity for online educational products. Names like Byjus, Vedantu, Unacademy, Zeus Learning, Eduncle, Toppr, Study IQ, Doubnut, and others became popular in quick time. Enrolments for online coaching classes saw a phenomenal rise in the backdrop of COVID-19. The buying behavior towards online education products that was complex and infrequent earlier has now become habitual and variety seeking. In this paper we have attempted to map this change by way of a survey of 100 parents who are buyers of online education products.

## LITERATURE REVIEW

The COVID-19 pandemic and the lockdown and social distancing orders have disturbed the purchaser propensities for purchasing as well as shopping. Consumers are figuring out how to make do and learn new propensities. For instance, consumers can't go to the store, so the store comes to home. While consumers return to old propensities, all things considered, they will be adjusted by new guidelines and techniques in the manner consumers shop and purchase items and administrations. New propensities will likewise arise by innovation progresses, changing socioeconomics and creative ways consumers have figured out how to adapt to obscuring the work, relaxation, and education limits (Sheth 2020).

TeachersPayTeachers.com (TpT) is a web-based education commercial center where instructors trade informative and homeroom assets. Regardless of indications of its notoriety, research on teacher TpT use is restricted. Our motivation in this paper was to concentrate on teachers' points of view on their TpT use during the COVID-19 pandemic. With the pandemic constraining numerous instructors to rapidly move to crisis remote educating, and afterward in this manner wrestle with half breed methods of educating, the interest for educational program and informative assets has been high. Through a Winter 2020 review, 904 instructors investigated how their TpT use had or had not changed because of the COVID-19 pandemic. Subjective examination proposed that more than 3/4 of the members showed that their TpT use had without a doubt different. Albeit 13% of respondents referenced less utilization of TpT,

65% portrayed utilizing TpT more or in various ways. Results give knowledge into instructors' inspirations to and encounters with utilizing an internet based education commercial center during the COVID-19 pandemic (Carpenter et al. 2021).

While scholastic free enterprise overruns numerous aspects of US advanced education, this study breaks down paid adwords as a technique for scholarly free enterprise in the internet based commercial center. This article presents discoveries from a five-month quantitative examination of paid adwords of the 2018 top US News and World Report top 100 public colleges. Catching the Fall 2017 application season, this study explored the number of, when, and what adwords establishments buy and how cost proficient these adwords were by words-per-snap and cost per-click. Information demonstrate private organizations purchase more adwords and pay a more prominent sum than public establishments yet don't create additional traffic from these adwords. Relapse investigations observe better-positioned foundations create more traffic from adwords than lower-positioned peers, however comparable examinations anticipating adwords and cost were not measurably huge. These discoveries propose a defined Internet commercial center, with better-positioned foundations rehearsing scholastic private enterprise to drive web traffic toward their sites during application season (Taylor and Bicak 2020).

Educators are facilitators of understudy learning and makers of useful study hall conditions. The structure of education needn't bother with any blocks and cement yet requires an exhaustive construction of aggregate human information. These days web based shopping of educational material has become recent fad of shopping and is quickly turning into a basic piece of life. The goal of this paper is to uncover the purchasing behavior of educators for various items and know their stream astute inclination towards web based shopping in Jabalpur city (Rawat and Swamy 2020).

The circumstance overall education in Georgia has changed in the spring semester of 2020, when the primary instance of COVID-19 disease was recognized ascending to 211 nearby and a larger number of than 1,5 million contamination cases worldwide by the Apr. 8. 2020. Georgia became one of 188 nations worldwide that has suspended the education cycle. The paper concentrates on the limits of the nation and its populace to proceed with the education cycle at the schools in the internet based type of distance learning, concentrate on audits the different accessible stages and demonstrates the ones that were utilized by the help of the public authority, for example, online entry, TV School and Microsoft groups for government funded schools and the choices like Zoom, Slack and Google Meet, EduPage stage that can be utilized for online education and live correspondence and gives instances of their utilization. Authors put forth a defense review, where the Google Meet stage was carried out for online education in a non-public school with 950 students, shows the use insights produced by the framework for the primary seven day stretch of the web-based education process. Results affirm that the fast change to the internet based type of education went effective and acquired experience can be utilized later on. The experience and studies can be valuable for different nations that poor person tracked down the methods of change yet. The illustration gained from the pandemic of 2020 will constrain an age of new regulations, guidelines, stages and answers for future cases, when the nations, government and populace will be more ready than today (Basilaia and Kvavadze 2020).

## METHODOLOGY

A short survey questionnaire was prepared and was circulated amongst 100 parents who were buyers of online education products from Pune. The questionnaire had the following ten statements indicating a change in buying behavior towards online educational products in recent times:

1. Parents are now more involved in buying of online educational products
2. Online education is seen as an alternative to physical education which is under suspension
3. Due to availability of smartphones and laptops, online education is seen as a plausible option
4. Children are also now more involved in buying of online educational products
5. The effect of sales promotion of online educational products is seen in the form of heightened interest
6. Parents are seeking wider choices while buying online educational products
7. As the schools and offline classes continue to remain suspended parents are getting habituated to buying online educational products
8. As the schools and offline classes continue to remain suspended children are getting habituated to using online educational products
9. Parents are expecting more launches of online educational products
10. Platforms like social media are playing an important role in spreading awareness about online educational products

Likert scales were used for response options. The response options were - 0 - Can't Say, 1 - Somewhat agree, 2 - Completely agree, 3 - Somewhat Disagree, 4 - Completely Disagree.

The questionnaire was tested for reliability and it returned a Cronbach Alpha score of 0.724 and hence was considered reliable. Following hypotheses were formulated:

Ho: There is no major change in consumer buying behavior towards online educational products in recent times

Ha: There is a major change in consumer buying behavior towards online educational products in recent times

The hypothesis was tested based on the average agreement/disagreement responses to the ten statements of the questionnaire. The average agreement/disagreement response of the 100 respondents for all the ten statements was taken as the sample mean and it was compared with a hypothesized population mean of 50% agreement/disagreement connoting an event by chance and not due to any statistical significance. A t-test was applied at 95% confidence level and based on the p-value the null hypothesis was tested for rejection or non-rejection.

## DATA ANALYSIS AND INTERPRETATION

51 respondents were male while 49 were females. 36 respondents were <40 years of age, 42 were in the age-group of 40-50 years and 22 were >50 years of age.

The average agreement responses to the questionnaire were as under:

**Table 1: Summary of responses to the questionnaire**

Statement	1	2	3	4	5	6	7	8	9	10	Average
Agreement %	86 %	73 %	85 %	79 %	71 %	84 %	68 %	82 %	81 %	76 %	79%

Based on the above summary average sample mean the hypothesis was tested as under:

**Table 2: Testing of Hypothesis**

Parameter	Value
Sample Mean ( $\bar{x}$ )	79%
Hypothesized population mean ( $\mu$ )	50%
SD of sample	1.0856
n (sample size)	100
t-value= $\text{abs}((\bar{x} - \mu) / (s/\sqrt{n}))$	2.7534
p-value = $\text{tdist}(t,(n-1),1)$	0.00346
Decision	Reject Null

Thus, the null hypothesis there is no major change in consumer buying behavior towards online educational products in recent times was rejected in favor of the alternate there is a major change in consumer buying behavior towards online educational products in recent times.

## Conclusion

There is a major change in consumer buying behavior towards online educational products in recent times. This has been concluded on the basis of overwhelming agreement to statements like - parents are now more involved in buying of online educational products, online education is seen as an alternative to physical education which is under suspension, due to availability of smartphones and laptops, online education is seen as a plausible option, children are also now more involved in buying of online educational products, the effect of sales promotion of online educational products is seen in the form of heightened interest, parents are seeking wider choices while buying online educational products, as the schools and offline classes continue to remain suspended parents are getting habituated to buying online educational products, as the schools and offline classes continue to remain suspended children are getting habituated to using online educational products, parents are expecting more launches of online educational products, and platforms like social media are playing an important role in spreading awareness about online educational products. The buying behavior towards online education products that was complex and infrequent earlier has now become habitual and variety seeking.

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## Chapter 29

### Review of impact of COVID-19 on MSMEs

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#### **Abstract**

The pandemic has created a survival problem for most Micro, Small and Medium Enterprises (MSMEs) globally. The SME sector is one of the most vulnerable sectors due to its size, limited financial resources and inefficiency in dealing with unpredictable situations. The majority of small and medium-sized enterprises recorded a decrease in their turnover, which was mainly caused by the reduction of economic activities, a drop in demand, labor shortages and supply chain disruptions. Furthermore, there was a significant reduction in employment, especially in the segment of informal employment. There has been some increase in formal employment by firms due to the business commitment of firms, the lack of informal workers, and the availability of workers at lower wages. Smaller firms in terms of both employment and investment and younger firms are more likely to be affected by external shocks. The government's support measures during the pandemic have been found to be insufficient and of limited significance to the MSME sector in its revival. To increase the resilience and sustainability of small and medium-sized enterprises, it is proposed that small firms be supported in financial planning for business uncertainties, and suggests financial security measures, viz. Small Business Uncertainty Corpus Fund and Small Business Insurance.

Keywords: MSMEs, Covid-19, Economic impact, Relief Package

## 1. Introduction

The outbreak of COVID-19 and the response of various economies has led to a decline in economic activity around the world. Policies to restrict mobility within and between countries, along with job closures, created economic uncertainty that ultimately resulted in reduced demand and disruption of supply chains worldwide (Cacciapaglia et al., 2020; Kuebart & Stabler, 2020). The current crisis differs from the global financial crisis of 2008 in that it has a dual impact on the economy from both the supply and demand side, with a significant increase in unemployment. Lockout and other precautionary measures that have been put in place to limit the spread of COVID-19 have hit all types of businesses hard, but these restrictions have a more severe impact on SMEs than on larger firms. In fact, SMEs are most vulnerable to such windfalls due to lower capital buffer, fewer assets and lower productivity levels (OECD, 2020). During the pandemic, the decline in GDP and business activity around the world further exacerbates the challenges faced by SMEs, especially micro-enterprises, which is why most governments are trying to implement effective policies for SMEs to respond appropriately to the current crisis (Haleem et al., 2020; Nicola et al., 2020). Due to their operational size and insufficient resources, SMEs are relatively more vulnerable to large industries in economic uncertainty (Bartík et al., 2020; Prasad et al., 2015). These MSME restrictions have been more intensively implemented throughout the world during the pandemic. Among MSMEs, the probability of failure in micro-enterprises is quite high. There are about 63.39 million MSMEs in India. Among them, the majority are micro-enterprises, approximately 99.5 percent. The MSME sector provides employment to about 111 million workers and contributes about 40 percent to the total output, about 30 percent of the total GDP and about 50 percent of the total exports of India. In order to revive the economy and support small and medium enterprises from severe impacts of COVID-19, the Government of India (GOI) announced various measures under the "Atmanirbhar Bharat" package in May 2020. The stimulus package aimed to help all sectors including laborers and agriculture, cottage industries, MSMEs and industry as a whole with emphasis on local markets and supply chains. The definition of SMEs has also been revised by increasing the investment limits for each SME sub-category and including turnover as an additional criterion. Reserve Bank of India has also taken some initiatives to increase liquidity in the financial market, reduce early repayment of debts and provide loans to individuals and industries, cheaper rates from banks help small and medium enterprises from the financial crisis. Although the economy showed signs of recovery after lockdown and restriction measures were gradually eased from June 2020, many SMEs found it difficult to resume operations, further leading to economic losses and keeping many on the brink of permanent closure.

## 2. Review of literature

In response to the COVID-19 pandemic, most countries adopted restrictive measures such as lockdowns, quarantines, and social distancing to limit the spread of the virus, which affected the mobility of factors of production and halted most business activities (Lonergan & Chalmers, 2020). These restrictions have led to job closures, decreased labor supply, reduced supply of raw materials, and disrupted supply chains around the world (Ernst & Young, 2020). In addition, uncertainty about the economic recovery caused people to reduce their spending, which led to a decrease in demand. The pandemic and its containment measures therefore generated both demand and supply shocks in all countries worldwide (del Rio-Chanona et al., 2020; Guerrieri et al., 2020; Bekaert et al., 2020; Sharma, 2022). The world is facing challenges on all fronts, such as falling gross domestic product (GDP), declining trade, disruption of supply chains, inflation and job cuts. It has affected millions of people and all types of

businesses. However, small firms are at higher risk than large firms due to the lack of financial and human resources from this crisis (Prasad et al., 2015; Bartik et al., 2020; Shafi et al., 2020). Most of the MSMEs have been severely affected during the pandemic and are facing various challenges such as lack of liquidity, supply chain disruption, reduction in sales, revenue and profit (Tairas, 2020; Shafi et al., 2020; Wijaya, 2020). In addition, SMEs also faced a lack of working capital, mainly due to reduced cash flows and limited access to finance. Together, these factors lead to increased operating costs for MSMEs during the pandemic. On the demand side, the decline in public consumption and the increase in commodity prices during the pandemic were responsible to increase inventories of finished products and accounting costs of companies (Lemi et al., 2020). Most SMEs have not been able to resume work due to the inability of employees to return to work, strict lockdown policies, reduced market demand and lack of epidemic mitigation materials (Lu et al., 2020). Among the various challenges that emerged during COVID-19, the problem of logistics, sales decline, lower access to finance and reduced capacity utilization were more likely to be experienced by small firms worldwide (Juergensen et al., 2020; Ratnasingam et al., 2020; Aftab et al., 2021). A study by Cepel et al. (2020) evaluated the attitudes of entrepreneurs towards selected business risks and found that market, financial and personnel risks are considered by SMEs to be the three most significant risks before and after the COVID-19 crisis.

### 3. Assessment of impact

#### a. Immediate impact (lock-down period)

The short-term impact on MSMEs is not difficult to predict. The problems are actually well known. The problem is both supply and demand. Decline in income, expenditure, employment and overall activity on one hand and sharp rise in health care expenditure on the other is a precarious situation facing India and the world at large. MSMEs have been hit hard. A big blow has been received on the demand front. Their customers, whether large industries or individual consumers, stopped spending directly and sharply reduced the demand for small and medium-sized companies. At the same time that labor mobility was also stopped, small and medium-sized enterprises had to stop production as well. Otherwise, inventories can sometimes be built up in times of short-term demand crisis. But with severe restrictions on the physical mobility of men and goods, this was also not possible. It was one of the worst times for MSMEs. The medium-term impact on the full financial year 2020/21 will depend on the recovery. The 1st quarter of the year has almost ended with zero economic activity. The signs of recovery are not so strong yet. However, the government has announced a 20 lakh crore relief package with some emphasis on helping small and medium enterprises, which is a positive sign. The package is expected to give confidence to SMEs. An analysis of the package for MSMEs is given below ([www.msme.gov.in](http://www.msme.gov.in), 2020) –

**Table 1: Relief package for MSME**

Sr. No.	Relief	Expected impact – Demand/Supply
1	Guarantee free and collateral free loans amounting to total Rs. 3.00 Lakh crores	Supply
2	Setting up of a Sub-ordinate Debt Fund, with partial guarantee support - Rs.20000 crores	Supply
3	Setting up Fund of Funds Rs.10000 crore fund	Supply
4	New definition of MSME #	Supply
5	No global tendering up to Rs. 200 crores.	Demand
6	Promotion of e marketing linkage	Demand

7	Mandatory for the Departments of Government of India and the CPSEs to pay the receivables to MSMEs within next 45 days	Supply
8	The announcements that TDS and TCS will be reduced by 25%	Supply
9	Extension in the compliance date of various income-tax related deadlines	Supply

(Source: [www.msme.gov.in](http://www.msme.gov.in))

# Change in definition of MSME

## Existing and Revised Definition of MSMEs



Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment < Rs. 25 lac	Investment < Rs. 5 cr.	Investment < Rs. 10 cr.
Services Enterprise	Investment < Rs. 10 lac	Investment < Rs. 2 cr.	Investment < Rs. 5 cr.
Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment < Rs. 1 cr. and Turnover < Rs.5 cr.	Investment < Rs. 10 cr. and Turnover < Rs.50 cr.	Investment < Rs. 20 cr. and Turnover < Rs.100 cr.

**Figure 1: Change in MSME definition**

(Source : MSME ministry)

Nine of the seven steps focus on the supply factor. At the same time, the government has also taken several steps to take care of the demand side. The recovery of the SME sectors in the medium term will largely depend on the recovery of large industries that are customers of SMEs. The situation can be expected to stabilize in the second quarter of the financial year and a rebound will be seen in the second half of fiscal 20-21. Thus, the performance of the SME sector for FY20-21 can logically be projected at around 50% of the previous year, i.e. for FY19-20 assuming a revival of the large sector.

An important macro factor for the performance of SMEs is their contribution to the total national GDP. Business Standard (2019) reported that SMEs contribute approximately 30% of national GDP. India's national GDP projections for fiscal 20-21 have taken a big beating. The RBI Governor made it clear in May 2020 that there is every possibility that GDP growth will be negative in 20-21 (The Hindu, 2020). "The biggest hit is private consumption, which accounts for 60% of domestic demand," the governor said. The share of SMEs in the total national GDP in percentage terms could still remain at around 30%, but in absolute terms it is certain to decrease significantly.

#### 4. Conclusion

The battle is fierce. Amid projections of the global worst economic recession by leading agencies and experts, the Indian government has taken some bold steps to hold the hand of one of the most vulnerable sectors, the MSMEs. The MSME sector, on its part, will have to respond well. It will have to maintain a long-term perspective and use government support in the right spirit. Government support is sometimes abused. Controls by the government are often weak and the tendency to siphon off benefits is quite common in India. A genuine and sincere effort on the part of MSMEs is a must. He must appreciate the fact that the government has a much

bigger challenge ahead of it and the SME sector is the second largest beneficiary after agriculture from the Rs.20 lakh crore stimulus package. They will have to keep in mind that the government has hundreds of other things to take care of, yet in a benevolent spirit it has given top priority to the MSME sector. Time will tell to what extent they are able to respond. Economic impact projections certainly do not look good in the short term. However, in the long term, the sector is expected to rebound strongly. To increase the resilience and sustainability of small and medium-sized enterprises, it is proposed that small firms be supported in financial planning for business uncertainties, and suggests financial security measures, viz. Small Business Uncertainty Corpus Fund and Small Business Insurance.

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## Chapter 30

### Impact projections of COVID-19 on India's GDP

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#### **Abstract**

COVID-19 had a major impact on India's GDP for the year 2020-21. This work deals with the impact projections of COVID-19 on India's GDP. Both short-term and long-term projections are considered. An important factor influencing GDP projections for the next 5 years is the likely rate of recovery. Three such scenarios can be considered with equal probability strong, medium and weak recovery. A positive average growth rate of 2% per year can be assumed for a strong recovery. A positive average for a slight recovery a growth rate of 1% per year can be assumed. A positive average growth rate of 0.50% per year can be assumed for a weak recovery. If the recovery is strong, the growth rate could reach as high as 7.45% in 2024-2025. If the recovery is moderate, the growth rate could reach as high as 3.45% in 2024-2025. If the recovery is weak, the growth rate could reach as high as 1.45% in 2024-2025

**Keywords:** Covid-19, Economic impact, GDP, Growth

## 1. Introduction

The gross domestic product (GDP) of India, which is among the countries with the longest school closures during the COVID-19 pandemic, would see the biggest decline in South Asia due to losses in education among young people, a new working paper published by the Asian Development Bank (ADB) has calculated (ADB, 2023).

Starting with a \$10.5 billion drop in 2023, the country's economy could suffer nearly \$99 billion by 2030, translating into a 3.19% reduction in GDP over baseline growth trends, according to the Potential Economic Impact Related to COVID-19".

Thus, India may account for more than 10% of the \$943 billion global GDP decline estimated by the ADB due to earnings losses in 2030, with skilled jobs expected to decline by 1% and unskilled jobs by 2% in this year.

"India has a remarkable interest in secondary education and among students in rural areas. School closures caused by the pandemic were also more extensive there," the paper noted.

Economies with significant populations of school-aged and college-educated youth in rural areas and in the poorest and second wealth quintiles – have been most affected because they lack access to the stable internet connection needed to study online.

Losses in education and earnings are significant, as a significant portion of the affected population will migrate to an unskilled workforce, the paper said. A large part of India's labor force is unskilled - 408.4 million according to ADB estimates, compared to 72.65 million skilled workers.

"In terms of absolute change, India experiences the highest decline in GDP in South Asia, approximately \$98.84 billion in 2030. In percentage terms, its GDP will decline by 0.34% in 2023, by 1.36% in 2026 and in 2030 by 3.19% said the paper.

"School closures lead to a decline in global GDP and employment. In addition, global GDP and employment losses increase over time. Global GDP declines to 0.19% in 2024, 0.64% in 2028 and 1.11% in 2030," concluded the paper co-authored by Spencer Cohen, Sumathi Chakravarthy, Sindhu Bharathi, Badri Narayanan and Cyn-Young Park.

India has the highest number of children enrolled in primary and secondary education among the Asian economies covered in the article, at 255.74 million. The number of students in tertiary education was second only to China at 36.39 million, according to January 2022 data used for the research.

While suggesting greater investment in education and skills with a focus on closing the digital divide, the paper's authors said the most immediate challenge for governments is to help students recover "lost opportunities" by conducting assessments among disabled children.

"It is important to identify the educational gap and the specific educational needs of individuals. Effective education programs should be designed to offer appropriate support, such as tutoring or special classes, to help them bridge the learning gap," the statement said.

"Governments must direct adequate funding and resources to the young population most affected by the closures, such as those from the poor, rural and disadvantaged groups. It is important that school-age children get as much education as possible, by providing financial support and incentives, while providing additional skills training support for out-of-school youth," he added.

This paper assesses the impact primarily based on secondary data.

## 2. Review of literature

Dev and Sengupta (2020) state that the outbreak of the Covid-19 pandemic is an unprecedented shock to the Indian economy. The economy was already in a sorry state before Covid-19 hit. With the prolonged nationwide lockdown, the global economic downturn and the associated disruption to demand and supply chains, the economy is likely to face a long period of slowdown. The size of the economic impact will depend on the length and severity of the health crisis, the duration of the lockdown and how the situation will develop after the lockdown is lifted. In this article, we describe the pre-Covid-19 state of the Indian economy, assess the potential impact of the shock on various segments economy, analyze the policies announced so far by the Central Government and the Reserve Bank of India to mitigate the economic shock and come up with a set of policy recommendations for specific sectors.

Das et al. (2020) claimed that the current pandemic situation has an adverse and profound impact on Indian business. Domestically, the impact of the COVID-19 coronavirus pandemic could lead to a slowdown in domestic demand. This will result in an erosion of purchasing power through job losses or wage cuts and the dampening effect of pent-up demand will have a longer-term impact on various industries, particularly where demand is discretionary in nature. India's real GDP contracted to a more than six-year low in 4Q 2019-20. India's growth for next year 2020-21 is forecast in the range of 5.3% to 5.7%. The COVID-19, or coronavirus, pandemic has exposed many weaknesses in the global system. Despite our accumulated experience in crisis management, this virus has managed to isolate us all in our homes. COVID-19 has caused severe disruption to the Indian economy. The current coronavirus pandemic could lead to a four percent permanent loss of real Indian gross domestic product (GDP). India's gross domestic product (GDP) growth rate is estimated to reach 1.9 percent in 2020-21. This will be the lowest since India recorded a growth rate of 1.1 per cent in 1991-92. COVID 19 has disrupted major sectors, it is clearly evident that various sectors of tourism and aviation, telecommunication, automotive sector, transportation are the most affected sectors faced negative impact of the current disaster. In a given situation where all the retail sectors are closing down their business, the livelihood of the workers is at optimum risk. The government of many countries encouraged employers to pay wages to their employees. This study is conducted to study the impact of COVID-19 in various industries with respect to data which is secondary in nature, various appropriate statistical tools and techniques are used for analysis and conclusions. Based on the findings, recommendations are proposed to overcome these adverse situations.

Barbate et al. (2021) have written that a number of research agencies, financial institutions and experts have provided India's GDP growth rate forecast for 2020-2021. Correction of these forecasts: All these forecasts have been corrected using weights of 3 for April 2020 reports, 2 for March 2020 reports and 1 for February 2020 reports and earlier periods as shown in Table 3. The weighted average rate for these 10 forecasts comes to 3.41% (0.818/24). These numbers may change dramatically given the range of options for 2020-2021. The decision tree model can be adopted considering three pessimistic situations: medium, average and severe. The probability estimates for these three scenarios at this time (April 2020) can be considered to be 0.33 each. The reduction in GDP growth rates for the three scenarios can be considered as -2%, -4%, and -6%, respectively, for medium, medium, and severe pessimistic scenarios. Considering these scenarios, their probabilities and the expected outcome, a decision tree structure emerges as shown in Figure 6. Summing the three EVs, -0.66%, -1.32% and -1.98%, the expected lowering the GDP growth rate forecast for 2020-2021 it is -3.96%. Adding this to the average of 10 expert projections, the revised GDP growth forecast for the Indian

economy for 2020-2021 comes to  $3.41\% - 3.96\% = -0.55\%$ . So there is every likelihood that GDP for 2020-2021, it could remain flat unless it turns south.

Joshi et al. (2020) state that the COVID-19 virus has resulted in the lockdown of schools, offices, factories, temples, railway stations and even airspace. It is estimated that as a result of the blockade, the Indian economy may face long-term adverse effects. The article is an attempt to find out the impact of the lockdown on the Indian economy and explore the future perspective. The study looked at important issues like consumer spending, demand and supply, unemployment rate, purchasing power, financial market, etc. Under the circumstances, the lockdown will cost India around USD 120 billion. The manufacturing and service sectors came to an abrupt halt, disrupting domestic supply chains. If this crisis continues, it will indirectly affect all economic sectors. The study provided suggestions as a learning curve that various stakeholders can use to improve the economic situation of the country and minimize the negative effects of the blockade.

Ramakumar and Kanitkar (2020) analyze the economic impact of the Covid-19 pandemic in India. Even before the pandemic, the Indian economy was characterized by a slowdown in economic growth and a record increase in unemployment and poverty. Thus, India's ability to deal with a new crisis was weak when the pandemic struck in March 2020. The post-March 2020 economic crisis affected all sectors of the Indian economy. In agriculture, farmers have struggled with disrupted supply chains, a lack of outlets, poor demand and falling output prices. In industry, micro and small businesses were the most affected. The crisis led to at least 15 million job losses. Using an Input-Output (I-O) framework, we construct four loss scenarios for the Indian economy. We estimate that India's GDP growth rate in 2020-2021 could range from -4.3% to -15%. The government's economic response until October 2020 was severely lacking in terms of demand-side interventions. The government was hesitant to expand budget spending because it feared an increase in the fiscal deficit. Given this fiscal policy, the chances of an early recovery in the Indian economy look bleak.

### 3. Assessment of impact

We based the assessment on the work by Barbate et al. (2021) who have given projections for both short-term and long-term impact on GDP under different scenarios.

A number of research agencies, financial institutions and experts have provided India's GDP growth rate forecast for 2020-2021. Correction of these forecasts: All of these forecasts have been corrected using weights of 3 for April 2020 reports, 2 for March 2020 reports, and 1 for February 2020 and earlier reports.

The weighted average rate for these 10 forecasts is 3.41% ( $0.818/24$ ). These numbers may change dramatically given the range of options for 2020-2021. The decision tree model can be adopted considering three pessimistic situations: medium, average and severe. Probability estimates for these three scenarios at this point in time (April 2020) can be taken as 0.33 each. The reduction in GDP growth rates for the three scenarios can be considered as -2%, -4%, and -6%, respectively, for medium, medium, and severe pessimistic scenarios. Considering these scenarios, their probabilities and the expected outcome, a decision tree structure emerges. Adding up the three EVs, -0.66%, -1.32%, and -1.98%, the expected reduction in the 2020-2021 GDP growth rate forecast is -3.96%. Adding this to the average of 10 expert projections, the adjusted GDP growth forecast for the Indian economy for 2020-2021 comes to  $3.41\% - 3.96\% = -0.55\%$ . So it is very likely that GDP will remain flat for 2020-2021 unless it turns south.

## Estimate for the next 5 years

An important factor influencing GDP projections for the next 5 years is the likely rate of recovery. Three such scenarios can be considered with equal probability strong, medium and weak recovery. A positive average growth rate of 2% per year can be assumed for a strong recovery. A positive average for a slight recovery a growth rate of 1% per year can be assumed. A positive average growth rate of 0.50% per year can be assumed for a weak recovery. If the recovery is strong, the growth rate could reach as high as 7.45% in 2024-2025. If the recovery is moderate, the growth rate could reach as high as 3.45% in 2024-2025. If the recovery is weak, the growth rate could reach as high as 1.45% in 2024-2025 (Barbate et al., 2021).

## 4. Conclusion

A major impact on the GDP growth rate is likely at least in 2020-2021. The finding is the same in the case of unemployment. Inflation is also likely to rise in the short term at least a term. The prime rate is expected to fall further as the government wants banks to create more credit in the market. Industrial production should beat strongly in at least 2020-2021. The economic impact in the long term will depend on the mode of recovery. Three such modes, namely strong, medium and weak, show a wide range of possibilities. A major impact of COVID-19 on the Indian economy is expected in FY 2020-2021. So the first quarter of 2020-21 will be completely lost. With great uncertainty, one can positively take the view that a recovery will begin at least from the second quarter of 2020-2021. The restoration will take place in phases and gradually. The recovery will be severely limited by concerns about controlling the spread of COVID-19. Effectively, 2020-2021 can only be assumed to be 6 months in reality. So for 2020-2021, one should be prepared to accept the worst. A global recession has already been predicted by all leaders economic and financial experts and some of them think that in June/July 2020 they will feel the big impact of the recession in the US and Europe. Strong leadership will be required from the government. However, it will take some time to get into the action at all levels. 2020-2021 would be a memorable year for the Indian economy and people will remember it as the year of 'life balance' or 'life reset'. The recovery in the long term will depend on the mode of recovery that the economy is able to accept. Three recovery modes are possible: strong, medium and weak. From now on, the best bet is equal odds for all three. The resilience of the economy, as it is always said, will be put to a major test. Some positives point in favor of a strong recovery. One is that the Indian economy is not very vulnerable to a global economic crisis, except for things like oil imports. It has its own local demand-supply network that can return a growth level of 7-8%. At the center is a strong political leadership whose role is so critical in times of crisis. The nation seems to be united like never before and can certainly fight back. Only time will tell to what extent it can backfire.

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## Chapter 31

### Impact of COVID-19 on digital payments in India

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#### **Abstract**

India is one of the fastest growing countries in terms of mobile users. Now mobile phones are not only a medium of speech but also widely used for mobile services. The pandemic has brought second thoughts to reaching for cash as cases increase, some going cashless to have contactless transactions. Even if the risk is not proven to be a risk, the psychological factor of people seeing money as "impure" could change the way they pay. Before the outbreak, mobile payments did not come close to being accepted. The use of digital payments has increased drastically during the pandemic. We have more than 900 million mobile users, but still about 40 million customers use mobile/digital transactions. The reasons can be various, the use of digital transactions has increased drastically during the pandemic. There are many digital payment modes which include ATM/Debit cards, UPI (Googlepay, Phonpe, Paytm etc.), NEFT, IMPS, various banking apps, internet banking and many more. Financial literacy and perception of digital transactions in rural India is to be shaped, the cashless economy sometimes still seems unreal. This article reviews impact of COVID-19 on digital payments in India.

**Keywords:** Covid-19, Digital payments, Cashless economy, Impact

## 1. Introduction

The term digital payment refers to the process of making a certain payment for a certain amount through a mobile application or website 24/7 around the world. It is a direct transfer of money from the borrower's bank account to the lender's bank account without any physical transaction between the parties. Every country's government regularly contributes its efforts to promote digital payment services, which is supported by several benefits. The concept of digital payments was born last decades, but now it is developing at a faster pace, especially in urban and rural India after the outbreak of the global COVID-19 pandemic, which has set all economies back due to the regulation of total lockdown. In India, the concept of digital payments begins to flourish in 2016 with the launch of the Digital India mission, which encourages Indian businessmen and rural people to adopt digital technologies in their lives to boost the country's economy through paperless, unattended and cashless transactions. In 2020, when the country faced a huge negative impact of the coronavirus, every second person started paying for the purchase of their essentials through digital transfer by avoiding cash payments to protect themselves from any kind of contact with another person, be it a person from cities, a city or even a village. An individual can make digital payments either by installing a mobile banking app or using any third party app like Amazon Pay, Google Pay, Phone Pay, Paytm and several others where both the parties like payer and payee need to link their bank account with a payment app to make a transaction or need to deposit an amount to your installed app's digital wallet.

The impact of COVID-19 has adversely affected most industries worldwide such as retail, fashion, hospitality, airlines and several others, on the other hand, the global pandemic has boosted the use of digital payments in several industries such as shopping. food and medicine online, subscription to OTT (over-the-top) channels for the latest movies or web series while following the government's social distancing rules and less use of cash payments in circulation. Many merchants to for their cashless sales to adopt a digital payment method that enabled them to receive and perform various transactions through various applications. Not only are there third-party apps, but some e-commerce websites like Amazon or messenger apps like WhatsApp have also started offering digital payment services to the general public (Singhal and Gupta, 2021).

## 2. Review of literature

Chaudhari and Kumar (2021) have stated that economies around the world have been under the strong grip of the once-in-a-century Corona pandemic throughout the 2020/21 financial year. But India's economy, which offers resilience through its strong fundamentals, has shown that the pandemic has led to a surge in digital payments in the retail sector. There was a significant increase in both volumes and value conditions in digital payments (retail) during the pandemic-affected financial year 2020/21 compared to the pre-pandemic financial year 2019/20. The impact is positive and has proven that the digital payment system in India is handling a large volume of financial transactions through digital platforms. The seeds of demonetization sown on November 8, 2016 through demonetization have proven their results in enabling the payment system to successfully manage a significant increase in digital payments during 2021/21.

Achutamba and Hymavathi (2022) observe that in current situations, the COVID-19 pandemic is bringing second thoughts about how to access cash as cases increase. For this reason, some want to go cashless to contactless transactions. The main purpose of the study is to understand how people have made a greater shift towards digital payments and it will be adopted by different people from different age groups, genders and professions. This study covers the awareness, perception and behavior of the general public towards the change of payment

system from traditional to digital. The main objective of this study is to highlight the changes that have taken place in the payment system in India. The primary data of this study was collected by sending a Google form to the general public and the sample size is 100. Statistical tools like Chi-Square test, Paired T-Test, ANOVA, Graphical presentations are used. From the study, we conclude that COVID-19 has brought about a change in the way payments are made. Although people may be limited in using digital payments now, but if proper measures are taken by banks and government, people will definitely switch to digitized payments.

Kaur and Walia (2021) examined the impact of COVID-19 on digital transactions in India and related research issues. From the paired sample t-test results, it was observed that COVID-19 had a significant impact on the use of digital payments. Challenges such as low financial inclusion rates, network congestion and internet connectivity issues, and cultural preference for cash prevent people from switching to a digital payment platform. The results of this study can assist stakeholders in designing strategies to promote wider adoption of digital payments.

Panwar et al. (2020) state that the ongoing spread of COVID-19 has become one of the biggest threats to the global economy and financial markets. The adverse effects of the COVID-19 pandemic are trickling down to major sectors of the Indian economy, with manufacturing, auto, retail, aviation and hospitality at the root. This in turn has affected the rapidly growing digital payments, which are closely related to the above sectors. Demonetization in November 2016 and continued push by the government and regulators for a less cash economy drove the growth trajectory. The digital payments market in India was valued at INR 1,638.49 trillion. The industry was equally boosted by technological innovation. In the past 10 years, the country has seen many unique and cutting-edge product innovations in the digital payments industry. The advent of a younger population that has grown up with mobiles and data has enabled faster adoption of technological advances in digital payments. In this post, the author examines the impact of the Covid 19 pandemic on digital payments. The aim of this study is to explain the challenges faced by various sectors in the Covid pandemic.

Pandey (2022) states that driven by recent policy initiatives and technological developments, India's digital payment system is a promising success story. In recent decades, the country has seen a significant increase in the use of digital payments. A digital payment, also known as an electronic payment, is the transfer of value from one payment account to another using a digital device such as a mobile phone, POS or computer, as well as a digital communication channel such as mobile wireless data or FAST. The digital payment methods commonly used by the country's citizens are bank transfers, mobile money and payment cards i.e. credit, debit and prepaid cards. From the launch of IMPS by NPCI in 2010 to the release of UPI in 2016, the digital payment system has evolved several times. The study is an attempt to analyze how different forms of digital payments have evolved in the past and how COVID-19 has affected digital payment systems in India. The study concluded that digital payments in India saw a robust volume growth of 26.2 percent in 2020-2021 against an expansion of 44.2 percent in the previous year. Finally, it has been observed that after the COVID-19 pandemic, people were worried about health regulations and were afraid of cash transactions that made them switch to this mode, leading to an increase in the use of various modes of digital payment systems.

Pandey and Pal (2021) have written that the Covid-19 pandemic has led to an inevitable surge in digital technology use due to social distancing norms and nationwide lockdowns. People and organizations around the world have had to adapt to new ways of working and living. We explore possible scenarios of digital growth and the research issues that will arise. The increase in digitization is leading companies and educational institutions to switch to working from home (WFH). Blockchain technology will become important and will include design and regulatory research. Gig workers and the gig economy are likely to grow, raising questions

about work allocation, collaboration, motivation, and aspects of overload and presentation. With the increase in digital presence, issues of workplace monitoring and technostress will come to the fore. Online fraud is likely to grow along with security management research. Regulation of the Internet, a key resource, will be essential after the pandemic. Research can address the consequences and causes of the digital divide. Additionally, the issue of net neutrality and zero-rated plans deserves scrutiny. A key research issue will also be the impact and consequences of internet shutdowns that countries often resort to. Digital money is also gaining importance in crisis situations and the research will look at its adoption, consequences and manner. Aspects of surveillance and privacy are becoming more important as digital usage increases.

### 3. Analysis of impact

India's digital payments story has always been unique in its own way since its inception with several factors like RBI regulatory support, internet penetration, consumer awareness, growth of eCommerce, birth of many PayTech players, demonetization of Indian economy etc playing live. role at different stages of the journey so far.

Given these factors, a 2019 study by Assocham-PWC India has already estimated that digital payments in India will more than double to \$135.2 billion by 2023!

However, the kind of impetus that the COVID 19 crisis has given to India's digital payments story – is one of a kind. The use of digital payments for everything from groceries to utility bills, taxi fares to toll payments etc. among demographically diverse people has seen a huge increase due to the fear of the virus.

According to a recent study by research institute Capgemini, 3/4 of Indian consumers have already reported increased use of digital payments since the virus outbreak! Further, 74% of Indian consumers expect to continue to increase their use of digital payments throughout the rest of the year.

These are huge numbers, something new for Indian digital payments and also the highest among the 11 countries surveyed for the same period!

This rapid consumer push to adopt digital payments has brought India to the inflection point of a revolutionary change in its digital payment adoption story, revealing huge market potential.

The short- to medium-term impact of Covid19 on Indian digital payments varies across digital payment methods, sectors and regions.

Several digital payment industries have definitely taken a hit with Covid19. Like PoS transactions were many times lower in the short term due to the overall slowdown in consumer spending, but as consumer spending increased in the medium term, PoS transactions gradually started to grow as well.

Digital payments for the travel and hospitality industry have been severely affected in the short term and continue to be in the medium term due to the overall fear of the virus.

Digital payment EMIs for banks and NBFCs have seen an all-time low in both the short and medium term.

Both international and domestic remittances through digital modes have been at an all-time low in the short term and remain sluggish in the medium term.

Although the above industries have seen a decline in digital payments, we cannot undermine the push that many other industries and modes have seen in the same period. Tailwinds in

digital payments in the short to medium term include utility payments, recharges and bill payments, toll payments, groceries, etc., especially in less digitally equipped areas of India such as semi-urban and rural areas.

### **Some digital payment options have specifically increased during COVID:**

India hosts a number of digital payment methods like Bank Cards, USSD, AePS, UPI, Mobile Wallets, Internet Banking, Mobile Banking, BHIM etc.

With the advent of COVID 19 in India, digital payments have definitely seen an upswing, but there are certain digital payment options that have specifically seen tremendous growth during the current pandemic for reasons that are obvious, such as zero or minimal touch transactions, ease of payment, greater acceptability, higher security credentials etc.

UPI transactions have emerged as a major payment option for an Indian who simply relies on a virtual UPI ID to receive and send money unlike other digital payment options like NEFT, RTGS which are quite lengthy. From April to June 2020 alone, the UPI transaction volume in India (Rs. In Cr.) saw a huge jump of 73%, compared to just 28% in the same period last year; clearly showing the impact of Covid.

Similarly, Tap-and-go payment options in contactless cards and digital wallet-based payments have also seen tremendous growth in the COVID era due to the physical simplicity and security they bring.

Some of the key business sectors where Indian consumers are increasingly using digital payments include:

- Groceries
- Payment of utility bills
- Subscription
- Daily basics
- Medicines

Moreover, from tea vendors to local mom and pop shops to roadside vendors, everyone has started accepting digital payments in one form or another, making the Covid push for digital payments in India even stronger.

### **Some places in particular have seen a surge in digital payments:**

India is a widely diversified market in terms of geographies and demographics of each geography. India's population is broadly divided into rural areas (up to 9,999 inhabitants), semi-urban areas (10,000 to 99,999), urban areas (100,000 to 999,999) and metropolitan areas (1,000,000 and above).

Rural India has specifically increased the use of certain digital payment methods during the current pandemic. Mobile deliveries including mini ATMs and bill payment kiosks have specifically picked up in rural areas over the past 3 months. Similarly, AePS (Aadhar enables payment service) has also seen a surge in usage during the current pandemic. Conversely, 94% of Indian consumers have adopted digital retail payments in metropolitan India. Metropolitan areas have seen a huge increase in the use of various digital payment methods, especially digital wallets, contactless cards and mobile and internet banking, as a result of Covid.

According to a recent survey, eCommerce powered digital wallets – Paytm, Amazon Pay, PayPal and PhonePe were among the top 5 most used digital payment modes in metropolitan India.

The new standard for payments in metropolitan India will soon be an average of one to two ATM withdrawals per person per month, skinner wallets with a 2000 or 1000 note kept as backup, and around 20 to 30 mobile or digital wallet payments per month. person, most of them using a QR code.

### **Reflection**

India is on such a cusp where the adoption of digital payments will soon see massive growth and Covid 19 has only added the much needed fuel to accelerate the speed of this adoption. With great diversity in India, not only in terms of its population demographics, but also in channels, modes, frequency and providers of digital payment transactions, India is sure to be a comprehensive land-based hub for digital payments whose adoption story will be forever evolving.

Demystifying the scale and degree of this adoption across sectors, regions, people, zones, businesses, modes, channels, etc. can reveal a huge number of underlying opportunities and help create a matrix of the most appropriate payment solutions for different user groups.

### **4. Conclusion**

In the fastest growing digital world, there is one most widespread way of making payments, which is called digital payments. Digital payment is an emerging concept that involves a monetary transaction between two or more people by adopting an online or digital platform instead of physically exchanging money. It is a platform where no physical interaction is required to pay or receive an amount of money which can be done via mobile or computer around the world 24/7. The main objective of digitizing payments is to fairly record all monetary transactions and protect the public from losing their hard-earned money to theft. COVID-19 or Coronavirus is a serious health disease that has declared the entire globe as a pandemic and is shutting down all business by imposing a global lockdown by the governments of all nations to protect the health and lives of the common people who are suffering, due to which many individuals have lost their existence. Secondary research covers some of the opinions or observations of other researchers who have contributed their knowledge in a related field. The conclusion of this research paper shows that there is a high increase in the use of digital payment services through various applications in India, which was not very high before the outbreak of the global pandemic of COVID-19.

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## Chapter 32

### Impact of COVID-19 on interest rates in India

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#### **Abstract**

COVID-19 has affected almost every sector and finance was no exception. Even basic products and services undergo modifications and are subject to new rules. These include savings accounts and their interest rates. After the nationwide quarantine, the economy slowed down. The Reserve Bank of India (RBI) has announced a number of measures to provide relief to the affected people. One of them was a three-month moratorium on EMI payments on term loans. They also cut key monetary policy rates i.e repo rate, reverse repo rate and cash reserve ratio (CRR). To ease the economic woes while keeping inflation under control, the RBI cut interest rates and kept the repo rate at a minimum of 4%. The Cash Reserve Ratio (CRR) was lowered, providing additional liquidity to help the banking system. The aim was to ensure that no part of the financial system faced liquidity problems or credit constraints. To manage the pandemic, it was paramount that government and central bank policy worked in tandem.

Keywords: Covid-19, Interest rates, MCLR, Base rate

## 1. Introduction

COVID-19 has affected almost every sector and finance was no exception. Even basic products and services undergo modifications and are subject to new rules. These include savings accounts and their interest rates. After the nationwide quarantine, the economy slowed down. The Reserve Bank of India (RBI) has announced a number of measures to provide relief to the affected people. One of them was a three-month moratorium on EMI payments on term loans. They also cut key monetary policy rates i.e. repo rate, reverse repo rate and cash reserve ratio (CRR). With the reverse repo rate falling, it was thought that it would be difficult for banks to promise the same interest rates they were offering on savings account balances. Experts were of the view that a cut in small savings rates would become inevitable. Subsequently, more than thirty central banks lowered their rates.

## 2. Review of literature

Fornaro and Wolf (2020) provide a simple model to understand some of the macroeconomic implications of the coronavirus epidemic. We focus on a scenario in which the outbreak of Covid-19 causes a sustained supply disruption that may extend beyond the end of the epidemic. We show that the spread of a virus can trigger a demand-driven slump, wreak havoc between supply and demand, and open the door to stagnation traps induced by pessimistic animal spirits. Aggressive policies to support investment can reverse the supply-demand gap and jump-start the economy from the pitfalls of stagnation.

Susilawati et al. (2020) has stated that COVID-19 is a global health problem including Indonesia. The increased number of cases of COVID-19 has been shown to have quite a significant impact on the global economy, which may affect stability in Indonesia. This method of data collection is a study literature method with secondary data types. The data is taken from the Internet with regard to the validity of information such as government official information, official online sites and processed results of valid data. After obtaining an existing reference, sorting information that is appropriate to the topic of discussion. Data analysis is presented in graphical form and comes with a descriptive story. Based on research, the impact of the COVID-19 pandemic is affecting the economy in Indonesia. The affected sectors during the COVID-19 pandemic are transport, tourism, trade, healthcare and other sectors, but the economic sector most affected by COVID-19 is the household sector. By optimizing the country's potential, the decline in the BI-7 Day Reverse Repo Rate (BI7DRR), the deposit facility interest rate and the lending facility interest rate, Indonesia's monitoring of global and domestic economic developments has been accurately assessed so that inflation and stability remain under control.

Wu and Olson (2020) have written that the COVID-19 pandemic has had a huge impact on the global economy. The impact of COVID-19 on the Chinese banking sector consists of three aspects: short-term, long-term and systemic risks. Support for differentiated financial services is needed for pandemic prevention and control with increased credit support. Medium to small businesses need to be supported through special credit lines, reduced loan interest rates, deferred repayments and the introduction of long-term credit systems. Digital transformation needs to happen faster to improve intelligent risk control systems.

Hordahl and Shim (2020) observe that bond portfolio outflows from emerging market economies (EMEs) are typically associated with currency depreciation and rising domestic long-term interest rates. This relationship was particularly pronounced during the Covid-19 crisis in mid-March 2020. The impact of bond portfolio outflows varies across countries depending on factors such as bond market depth, foreign exchange market functioning and sovereign risk. The impact of these country-specific factors on responsiveness has been

significantly reduced during the Covid-19 pandemic. Recent policy responses such as bond purchase programs, duration swaps and efforts to stabilize exchange rates may play an important role in maintaining financial stability in EMEs as they face bond outflows. Policy measures to develop deep and liquid bond markets and strengthen the resilience of local currency bond and foreign exchange markets are likely to strengthen market functioning in the long term.

Zhang et al. (2020) have stated that the rapid spread of the coronavirus (COVID-19) is having a dramatic impact on financial markets around the world. This created an unprecedented level of risk, causing investors to suffer significant losses in a very short period of time. This paper aims to map general patterns of country-specific and systemic risks in global financial markets. It also analyzes the potential consequences of policy interventions, such as the US decision to introduce zero interest rates and unlimited quantitative easing (QE), and the extent to which these policies may introduce additional uncertainties to global financial markets.

### 3. Analysis of impact

With the outbreak of the COVID-19 pandemic, central banks around the world have poured massive liquidity into markets to counter the economic fallout. The Reserve Bank of India (RBI) has also announced a number of measures over time to deal with the emergency.

The RBI has cut the repo rate to 4 percent in various tranches from 6 percent in April 2019. The total reduction in FY20 was 160 bps. However, there is an argument that interest rate transmission is not as fast as it should be.

Lending rate which is defined by MCLR or prime rate or more recently accepted benchmark is also linked to deposit rate which has to change first as it goes into cost of funds.

“Since loans are immediately revalued, while only new and renewed deposits go with the new rate, the impact on the average price of deposits would come with a lag. So there is a theoretical reason why the transmission is slow, which could take more than six months, assuming banks cut deposit rates,” CARE Ratings said in a report.

In order to gauge the state of liquidity, we can look at the markets, as the government bond is probably the best indicator that is risk-free.

The agency noted that the 10-year GSec yield was 7.24 percent as of the last week of March 2019. By March 27, 2020, it had decreased by approximately 60 bps. The response rate (the change in the interest variable to the change in the repo rate expressed as %) is therefore 70 percent.

“Subsequently, by May 22, the response was higher than expected at nearly 140 percent as the yield fell 100 bps to 5.75 percent in response to a 75 bps cut in the repo rate. However, in the third phase of the 40 basis point repo rate cut in May, the yield remained more or less unchanged in the same range,” the report said.

According to the report, the prospect of higher government borrowing and more paper issuance were responsible for the intransigence in yield movements.

On the lending side, banks responded with a great deal of willingness, as seen in the decline in the weighted average interest rate (WALR) on new loans. The 160bps reduction over the 14 months caused the WALR to fall by 122bps, which is quite significant, with the WALR response to new loans above 75 percent.

Bank deposit rates have also decreased, although not to the same extent. During the 14-month period, there was an overall decline in deposit rates of 77 bps compared to a 160 bps reduction in the repo rate. So at average deposit rates, the transfer rate is only about 50 percent.

"Thus, we can say that monetary policy measures have been quite effective in terms of transmission and, depending on the evolving situation, can be expected to play an important role in driving the direction of interest rate movements," CARE Ratings said.

However, the median MCLR may not be an effective benchmark against the WALR, which is a true average that also takes into account the size of the loans. For the entire period, MCLR has come down by 104 points in one year in response to a 200 bps cut in the repo rate.

### **Actions by RBI**

The COVID-19 pandemic has triggered extreme risk aversion and heightened volatility in financial markets, prompting hikes in the first two MPC meetings scheduled for March 31, April 1 and 3, 2020 and June 3-5, 2020 to 24. , 26 and 27 March 2020 and 20-22 May 2020. At the March 2020 meeting, the MPC noted that the macroeconomic risks from the pandemic, both on the demand and supply side, could be severe and that all necessary steps needed to be taken to protect the domestic economy from the pandemic. The MPC therefore unanimously voted for a significant reduction in the key repo rate. With a 4 to 2 majority, the repo rate was cut by 75 bps to 4.40 percent, while 2 members voted in favor of a 50 bps cut. All members voted unanimously to continue the accommodative stance for as long as necessary to revive growth and mitigate the impact of COVID-19 on the economy, while keeping inflation within target. At its May 2020 meeting, with the growth outlook remaining grim, the MPC decided to cut the repo rate by another 40 basis points to 4.0 percent to preemptively use the available space to further ease financial conditions to mitigate the adverse impact of the pandemic on the economy. Five members voted for a 40 bps cut in the base repo rate and one member voted for a 25 bps cut. The MPC also voted unanimously to continue the accommodative stance it had set at its March meeting.

At the time of the two-month review in August 2020, a more likely recovery in economic activity in the second quarter, led by the rural economy, was clearer. However, real GDP growth was expected to be negative for 2020-21. On inflation, although the release of the June CPI was still not normalized in terms of data coverage, headline inflation was hovering above the upper tolerance limit of 6 percent. Data reliability issues, along with high retail markups amid the pandemic, have added uncertainty to the inflation outlook. Accordingly, the MPC decided to pause and remain vigilant for a sustained reduction in inflation to use the available space to support economic recovery.

The October 2020 policy took place in an environment where high-frequency indicators suggested a pick-up in economic activity in Q2 2020–21 following a record decline in real GDP in Q1 2020–21. Headline CPI inflation continued to remain above the upper tolerance limit as price pressures intensified across food, fuel and major sub-groups due to supply disruptions, high retail margins, high indirect taxes on petroleum products and higher costs of doing business in the post-lockdown period. The rural economy was expected to strengthen further, while a recovery in urban demand was seen as delayed due to social distancing norms. Moreover, private investment and exports are likely to remain subdued. Real GDP was projected to contract by 9.5 per cent during 2020–21, with GDP growth moving into positive territory by Q4 2020–21 and standing at 20.6 per cent in Q1 2021–22. Headline CPI inflation was expected to moderate to 5.4-4.5 percent in 2H2021-21 and further to 4.3 percent in 2021-22Q1, with risks more or less balanced. The MPC noted that economic recovery following the unprecedented COVID-19 pandemic was given top priority in the conduct of monetary policy. As for elevated inflation, the MPC judged that the underlying factors were essentially supply

shocks, which are likely to dissipate over the coming months as the economy unlocks, supply chains recover and activity normalizes, and as such can be viewed at determining the exchange rate. political stance. Accordingly, the MPC voted unanimously to leave the key repo rate unchanged. In a 5-to-1 vote, the MPC also decided to continue the accommodative stance of monetary policy for as long as necessary – at least during the current financial year and the next financial year – to revive growth on a sustained basis and cushion the impact. COVID-19 on the economy while ensuring that inflation remains within target going forward.

By the December 2020 meeting, the economic recovery had advanced further, but at the same time as inflationary pressures intensified. The contraction in real GDP in Q2 2020-21 was shallower than expected, and high-frequency indicators suggested that the recovery was gaining strength in Q3 2020-21. With positive growth projected at (+) 0.1 percent in Q3 2020-21 and (+) 0.7 percent in Q4 2020-21, real GDP was expected to contract by 7.5 percent in 2020-21, down from a 9.5 percent cut from the October 2020 estimate. In 1H: 2021-22, expansion is projected to accelerate to (+) 21.9% to (+) 6.5% with approx. risks. However, inflationary pressures turned out to be stronger than expected, with CPI inflation rising to 7.6 percent in October 2020 on the back of broad-based increases in food and core inflation, and the outlook remains subdued with continued high retail price margins and rising oil prices and stickiness caused by cost-cutting pressures. In light of these pressures, inflation projections have been revised upwards to 6.8-5.8 percent in H2:2020-21 and 5.2-4.6 percent in H1:2021-22, with risks more or less balanced. However, with signs of recovery far from widespread and dependent on continued policy support, the MPC voted unanimously to maintain the status quo on the repo rate for monetary policy, continuing with an accommodative stance as outlined in its October resolution.

In the run-up to the sixth bi-monthly policy in February 2021, inflation eased sharply to 4.6 percent in December 2020. Taking into account the significant correction in food inflation on the one hand and continuing pressures on core inflation on the other, the CPI inflation projection has been revised to 5.2 per cent in Q4 2020-21, 5.2 per cent to 5.0 per cent in H1 2021-22 and 4.3 per cent in Q3 2021-22, with risks more or less balanced. On the growth outlook, the MPC opined that rural demand is likely to remain resilient against a good agricultural outlook, while urban demand and demand for contact-intensive services are expected to strengthen with a substantial decline in COVID-19 cases and expansion. Consumer confidence was recovering and business expectations remained upbeat. Taking into account these considerations and the Union Budget proposals for 2021-22, real GDP growth was projected at 10.5% in 2021-22 – ranging from 26.2% to 8.3% in H1 and 6.0% in 3rd quarter. Given the softening of inflation, as well as the need for continued policy support to put the recovery in growth on a firmer footing, the MPC voted unanimously to leave the key repo rate unchanged at 4 percent and to continue with an accommodative stance until the prospects for a sustainable recovery are well-secured and at the same time they are closely monitoring the evolving inflation outlook.

#### **4. Conclusion**

As the monetary authority, the Monetary Policy Committee (MPC) has set a three-fold objective of mitigating the negative effects of the virus, reviving growth and maintaining financial stability. To ease the economic woes while keeping inflation under control, the RBI cut interest rates and kept the repo rate at a minimum of 4%. The Cash Reserve Ratio (CRR) was lowered, providing additional liquidity to help the banking system. The aim was to ensure that no part of the financial system faced liquidity problems or credit constraints. To manage the pandemic, it was paramount that government and central bank policy worked in tandem. To ensure that governments did not have to cut their spending due to revenue shortfalls, the

RBI needed to enable both the central and state governments to borrow adequately in the debt markets. As a banker for Central and State Governments, the limit of ways and means of advances has been increased for both Central and State Governments. In addition, the RBI has purchased around 30% of central government net market borrowings through open market operations in FY2021 and has committed to continue to purchase significant amounts through the G-sec acquisition program in FY22. Special OMOs – through Operation Twist (OT) involving the simultaneous purchase of long-term government securities and the sale of a similar amount of short-term securities in a liquidity-neutral manner, have reduced the long-term yield and flattened the curve. The Reserve Bank was successful in managing large government borrowing in FY21 at a weighted average borrowing cost for the central government of just 5.79%, a 16-year low.

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## **CHAPTER 33**

# **COVID 19'S IMPACT ON E-COMMERCE**

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**Abstract:**

Due to the COVID-19 pandemic, many businesses have turned to online channels in order to survive and change with changing consumer preferences. Due to social distancing rules, many physical stores have closed or are operating at reduced capacity, which has led to an increase in online sales. Due to this, e-commerce sales have risen in a number of sectors, including retail, food and beverage, and healthcare. Due to the pandemic, many shoppers now place a higher priority on availability, convenience, and safety when making purchases. E-commerce businesses have therefore had to adapt to these changing needs, introducing curbside pickup and contactless delivery options as examples. Global supply chains have been severely disrupted by the pandemic, which has resulted in inventory shortages, slowed shipping, and higher costs. E-commerce businesses have had to overcome these obstacles in order to meet customer demand while controlling costs. During the pandemic, e-commerce businesses had to put their customers' and employees' health and safety first. This required the implementation of safety procedures like improved cleaning, the provision of personal protective equipment (PPE), and the ability to conduct remote work. As businesses look for ways to adapt to the changing needs of their customers, the pandemic has created opportunities for innovation in e-commerce. To give their customers a more tailored and interesting experience, many e-commerce businesses have introduced new services and products, such as subscription-based models and virtual events.

**Keywords:** pandemic, online shopping, business, consumers

Introduction: E-commerce platforms' impact on the Indian economy

In recent years, the Indian economy has undergone significant change thanks in large part to e-commerce platforms. Small and medium-sized businesses can now reach a wider audience and reach markets outside of their immediate geographic regions thanks to e-commerce platforms. India's economy has benefited greatly from this, especially in rural areas where market access was previously scarce. New job opportunities have been made possible by the expansion of e-commerce platforms, including positions in customer service, warehousing, and logistics. This has been especially helpful in India, where unemployment is a major problem. The GST (Goods and Services Tax) that is collected from the goods and services offered on e-commerce platforms has helped India's tax revenue. This has made it easier for the government to finance its numerous programmes and initiatives. The promotion of digital payments in India, which has been a government goal, has been greatly helped by e-commerce platforms. A more open and responsible economy has resulted from the increasing use of digital payments, which has helped to lessen the reliance on cash. Because e-commerce platforms have invested in creating a productive supply chain network, delivery are now quicker and more dependable. As a result, customers now have a better shopping experience, which has increased online shopping.

### COVID 19'S BENEFITS FOR E-COMMERCE

The world has been significantly impacted by the COVID-19 epidemic, including the economy and consumer behaviour. Even while the pandemic has made many firms struggle, the e-commerce sector has benefited in a number of ways. The following are a few examples of how COVID-19 has benefited e-commerce:

a rise in the popularity of online shopping Several people were compelled to stay at home due to the epidemic, which significantly increased online buying. Demand for online retailers increased as more consumers used e-commerce to buy groceries, other goods, and daily necessities.

Faster digital transformation: As a result of the pandemic, many firms have been pushed to adopt digital transformation and move their activities online. The e-commerce industry has grown as a result of more companies implementing e-commerce platforms.

Expanding new consumer segments: The pandemic has also caused e-commerce enterprises to grow their new customer bases. Due to the pandemic, older generations who were not as accustomed to online shopping have been compelled to start using it to buy goods and services.

Increasing investment in logistics and supply chain infrastructure: To keep up with the rising demand for online shopping, e-commerce companies have had to make investments in their logistics and supply chain infrastructure. This has improved delivery effectiveness and speed, which has helped the sector grow even more.

Payment system innovation: COVID-19 has also sparked a rise in contactless payment system innovation. Due to the widespread use of digital payments by customers, digital wallets, mobile payments, and other contactless payment options have grown in popularity.

The COVID-19 epidemic has sped up the development of the e-commerce market and stimulated more investment and innovation. E-commerce will therefore probably continue to expand and take on a bigger role in the global economy in the years to come.

The COVID-19 epidemic has significantly impacted every sector of the global economy, including e-commerce. Due to the closing of physical stores, demand for e-commerce has increased, but there have also been negative effects on the industry. Here are a few illustrations: Disruptions in the supply chain: Lockdowns and travel restrictions were enacted in numerous nations, which disrupted the supply chain. E-commerce companies thus experienced shipping and delivery delays, which decreased customer satisfaction.

Reduced consumer confidence: As a result of the epidemic, consumers prioritised purchasing necessities and reduced their expenditure on frivolous things. Sales of non-essential goods like fashion and cosmetic products have suffered as a result of the decline in consumer confidence.

Competition has been tougher, making it more difficult for small firms to succeed in the e-commerce sector as more businesses have moved online as a result of the pandemic.

Challenges in delivery and shipping: Due to the epidemic, there has been an increase in online orders, placing pressure on delivery and shipping services. For e-commerce merchants, this has resulted in delays and higher shipping costs, which has a detrimental effect on the customer experience.

Cybersecurity threats: As more people shop online, e-commerce platforms have become more frequently targeted by cyberattacks. These assaults have the potential to jeopardise client data and harm e-commerce firms' reputations.

On e-commerce, the COVID-19 epidemic has had a conflicting effect. While the increase in online shopping demand has provided certain e-commerce companies with growth prospects, the negative effects have been severe and will continue to be seen in the future.

### Impact of Pandemic on Global Consumer Behavior

Global consumer behaviour has been significantly impacted by the COVID-19 epidemic. Here are some examples of how the pandemic has changed consumer behaviour:

An increase in internet buying has resulted from people's reluctance to visit physical stores due to the pandemic. All online product categories, including grocery, electronics, and clothing, have seen a surge in sales.

More emphasis on hygiene and health: Consumer behaviour has changed as a result of the pandemic's increased public awareness of health and hygiene. For instance, demand for masks, hand sanitizers, and other personal protective equipment has skyrocketed.

Prioritizing essentials: Because to the economic uncertainties brought on by the epidemic, many customers have chosen to spend their money on necessities like food, medicine, and household supplies rather than luxury and fashion items.

Increased home cooking: Due to restaurant closures or capacity restrictions, more people are cooking at home, which has raised demand for groceries, kitchenware, and recipe books.

Travel patterns have changed significantly as a result of the pandemic, with domestic travel, road vacations, and outdoor activities receiving more attention and international travel declining.

Greater emphasis on sustainability: The epidemic has brought attention to the significance of environmental issues. Demand for locally grown and organic food has increased as consumers become more interested in eco-friendly products.

### CONCLUSION

Globally, the COVID-19 pandemic has significantly altered consumer behaviour, including adjustments in buying habits, an emphasis on hygiene and health, and a move towards necessities, among other changes. As people become used to the "new normal" of life after the pandemic, these changes are likely to last even after the virus has passed.

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## CHAPTER 34

# EDUCATIONAL SCENARIOS AND LEARNING BEHAVIORS AFTER COVID PANDEMIC

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### Introduction

The outbreak of Covid-19 pandemic has led to unprecedented disruption of educational systems worldwide. With schools and universities shuttered in an effort to prevent the spread of the virus, there has been a quick shift towards distance learning and virtual classrooms. This rapid transition has prompted worries about the impact on the quality of education and the learning results of students.

After the Covid pandemic, a variety of educational settings and learning patterns have arisen. We will evaluate the challenges and opportunities given by remote learning and virtual classrooms and discuss ways educators may use to increase student engagement and learning results.

### Remote Learning: Challenges and Opportunities

Remote learning has become the new norm for students across the globe due to the Covid-19 pandemic. While it offers numerous advantages [1] such as flexibility and accessibility, it also presents significant challenges. One of the biggest challenges is the lack of face-to-face interaction between students and teachers. This can result in decreased motivation, engagement and social interaction which are essential components of effective learning [2].

The lack of social interaction in remote learning environments can lead to feelings of isolation and disconnection among students which can affect their mental health and academic performance. Additionally, students may struggle to stay motivated and engaged without the support and encouragement of their teachers and peers.

To address these challenges, educators can employ various strategies such as incorporating interactive and collaborative activities, providing regular feedback and establishing clear communication channels. These strategies can help create a more engaging and supportive learning environment which can enhance students' motivation and academic performance.

Incorporating interactive and collaborative activities in remote learning environments can help students stay engaged and connected with their peers and teachers. Educators can use various online tools and platforms such as discussion forums and virtual classrooms, to promote collaboration and interaction among students. These activities can also help students develop essential skills such as communication, teamwork and problem-solving which are essential for success in the modern workforce.

Providing regular feedback is another crucial strategy that educators can use to enhance student engagement and motivation in remote learning environments. Regular feedback can help students identify areas of improvement and track their progress which can boost their confidence and motivation. Educators can use various feedback methods such as peer assessments, self-assessments and teacher feedback, to provide students with constructive feedback on their performance.

Establishing clear communication channels is also vital for creating a supportive and engaging remote learning environment. Educators can use various communication tools such as email, video conferencing and chat, to communicate with their students regularly. By establishing clear communication channels, educators can ensure that students have access to the resources and support they need to succeed in their learning.

Remotlearning offers numerous opportunities for students to learn and grow but it also presents unique challenges that educators need to address. By employing various strategies such as incorporating interactive and collaborative activities, providing regular feedback and establishing clear communication channels, educators can create a more engaging and supportive learning environment which can enhance students' motivation and academic performance. As remote learning continues to be an essential part of the educational landscape, it is crucial to embrace these strategies to ensure that students receive a high-quality education.

Virtual Classrooms: The Future of Education?

### Top of Form

Virtual classrooms have garnered considerable attention and been acknowledged as a viable alternative to conventional classrooms. They provide numerous advantages, including better accessibility, decreased prices, and enhanced flexibility [3]. Yet, virtual classrooms also provide new obstacles, such as the requirement for dependable Internet connectivity and the absence of physical presence [4]. To realize the benefits of virtual classrooms, instructors must employ creative teaching techniques that encourage active learning and student participation.

One of the primary advantages of virtual classrooms is their accessibility. Students can participate in virtual classrooms from anywhere, at any time as long as they have access to the internet. This accessibility is especially beneficial for students who live in remote areas or have limited access to traditional classrooms. Additionally, virtual classrooms reduce the costs associated with traditional classrooms such as transportation, facilities and resources.

Virtual classrooms also offer greater flexibility in terms of scheduling and pacing. Students can learn at their own pace and have access to course materials and lectures at any time [5]. This flexibility is especially beneficial for students who have busy schedules or prefer self-directed learning.

However, virtual classrooms present unique challenges that educators need to address. The need for reliable internet connectivity is crucial for students to access virtual classrooms which may not be available to all students. Additionally the lack of physical presence in virtual classrooms can result in decreased motivation and engagement which are essential components of effective learning. To overcome these challenges, educators need to adopt innovative teaching strategies that promote active learning and foster student engagement. These may include using interactive technologies such as virtual reality and gamification, to create a more engaging and immersive learning experience. Incorporating real-world examples and case studies can also enhance students' understanding and application of course concepts.

### Blended Learning: Combining the Best of Both Worlds

Blended learning is a contemporary method to education that mixes traditional classroom instruction with online learning. It is a flexible method that combines the advantages of face-to-face interaction with the convenience of online learning. Blended learning is intended to mitigate the drawbacks of both remote and traditional learning environments while maximizing their benefits [6].

Educators can increase the flexibility and accessibility of their courses while retaining the advantages of face-to-face contact by including online components. Blended learning provides numerous benefits, including enhanced accessibility, flexibility, and tailored learning experiences. It gives students access to educational resources and materials from anywhere and at any time, enabling them to study at their own pace and convenience [7].

To implement blended learning successfully, educators need to design courses that are tailored to the needs of their students. They can use various online tools and resources such as discussion forums and multimedia presentations, to create a more interactive and engaging learning experience. Blended learning encourages active participation, collaboration and interaction among learners which can enhance their motivation and engagement levels.

Blended learning is a flexible and successful method that combines the advantages of remote and traditional learning environments. It provides learners with greater accessibility, flexibility, and individualized learning experiences while preserving the advantages of face-to-face engagement. To successfully adopt blended learning, educators must build courses based on the requirements of their students, combining a variety of online tools and resources to create a dynamic and engaging learning environment. Blended learning has the ability to increase student engagement, boost learning outcomes, and minimize the expenses associated with conventional classroom instruction.

### Conclusion

The Covid-19 pandemic has created a seismic shift in the way education is delivered, forcing educators and students alike to adapt to new learning scenarios and behaviors. Remote learning, virtual classrooms and blended learning have emerged as viable alternatives to traditional classrooms, offering numerous benefits such as increased accessibility, reduced costs and improved flexibility. However they also present unique challenges that educators need to address.

The lack of face-to-face interaction between students and professors is one of the main issues created by distant learning and virtual classrooms. This can lead to a decline in motivation, engagement, and social connection, all of which are crucial for optimal learning. To solve these obstacles, educators must implement new teaching practices that promote active learning and encourage student engagement.

To prepare students for the future as the world recovers from the epidemic, it is vital to embrace these new instructional settings and learning practices. Instructors must continue to explore novel teaching practices and utilize technology to create an inclusive and engaging learning environment that fosters student achievement. By doing so, we can ensure that education remains accessible, relevant and effective in the post-pandemic world.

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## **CHAPTER 35**

# **THE EFFECTS OF COVID-19 ON ELECTRONIC COMMERCE**

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### **ABSTRACT**

This study aims to examine the effects of COVID-19 on electronic commerce. Lockdowns due to COVID-19 pandemic has greatly affected the shopping behaviour of the consumer. E-commerce is considered as a most convenient mode of shopping by the consumers, but e-commerce businesses are also facing challenges which were unexpected. On the other hand e-commerce was the only source for the public to shop groceries or meals and any other required essentials. Coronavirus (COVID-19) has affected e-commerce industry positively as many retailers and customers have shifted online for the buying and selling activity.

Keywords: COVID-19, e-commerce, pandemic

## INTRODUCTION

The novel Coronavirus is the disease which rapidly increased the positive rate and which has changed the life human beings. In order to curb the wide spread of coronavirus government had implemented social distancing, lockdowns, self-isolation had a great impact on consumption of social media and other online platform of e-commerce to be connected with their family and friends and to meet their basic needs. Basic requirements like food item, medicines and other essentials has adversely affected the demand and supply of goods and shopping, this directly or indirectly led to increase in the prices, fraudulent activities, cybercrime, etc... E-commerce has shown a positive growth during coronavirus pandemic.

## REVIEW OF LITERATURE

Charumathi and Rani (2017) in their study have identified that internet plays a important role in the e-commerce that enables them to offer various facilities which involves discussion, dealings and distribution of goods and services. Websites, mobile applications, internet helps the business in creating attractive marketing strategies among the customer in related to the goods and services.

Bhatti et al(2020) has examined in the study that electronic commerce has grown during covid 19 times. E-commerce is considered as substitute to traditional commerce.

Hasanat et al (2020) Due to lockdown maximum industries had shut down the import and export activities had affected the most. The products from different countries couldn't be exported and imported.

## OBJECTIVES

The study on the effects of COVID-19 on electronic commerce is carried on with the objective of analyzing the positive and negative impact of COVID 19 on E-commerce and to understand the basic concept of COVID on e-commerce.

## METHODOLOGY

For the purpose of the study quantitative method, secondary data such as published journals, magazines, books and various data from internet.

## POSITIVITY OF COVID 19 ON E-COMMERCE

The effects of COVID 19 on the e-commerce sector have both positive and negative. Firstly many business have experienced online selling for the first time as lockdown forced them to do so, and not only the businesses but customers those who have never tried online shopping have started using e-commerce for their various purchase and have felt is so convenient and comfortable shopping from home. Secondly, social media has played an important role in developing and marketing the products as people spent most of their time scrolling down social media platforms like facebook, instagram..., and helped the business to market their products with less or without investment. The fear of COVID 19 which made people cautious and to prefer online shopping even after lockdown was officially ended. When few products like tissues, sanitizers and other essentials which was unavailable in physical store was available in online.

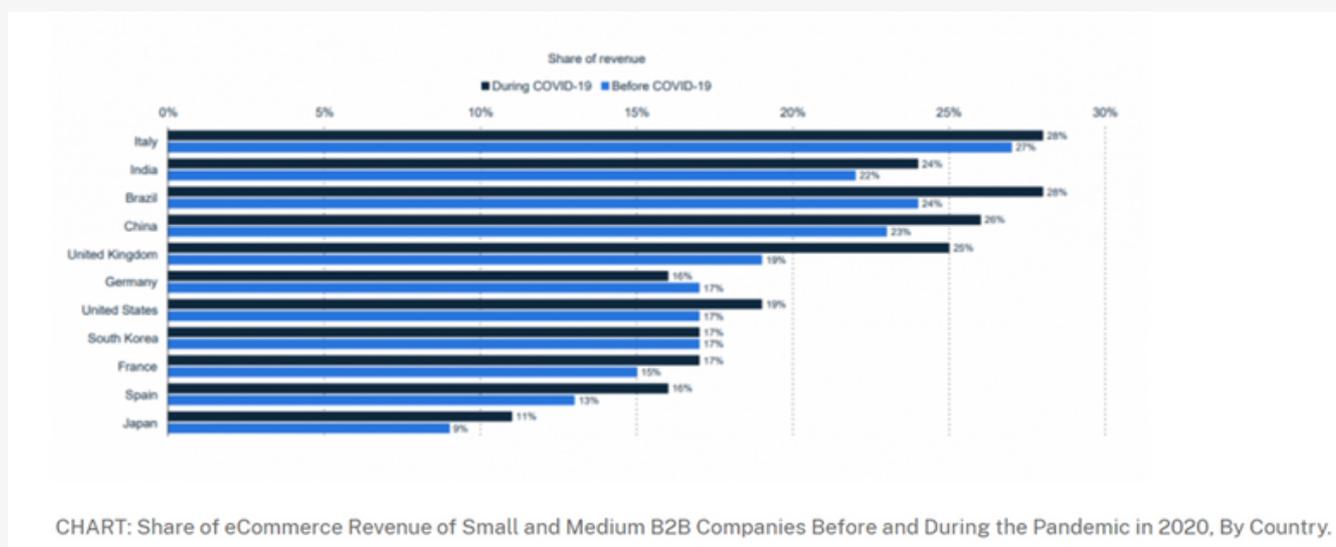


Figure 1 Source International Trade Administration

## CHALLENGES FACED BY E-COMMERCE DURING COVID

The customers had more expectations like low cost, free returns, free home delivery...,etc. Use of technology was not easy for some people who were not aware of how to utilize this online shopping and smart phone or electronic gadgets. Customers are concerned about their security and privacy and they avoided using online payment option which can lead to contactless payments one of the measures to reduce the spread of coronavirus. Demand for essential products went high which was not been able to manage and the customer's loyalty towards that company went down.

### LIMITATION AND SCOPE TO FUTURE STUDY

The study is limited to time constrain, secondary method many not be accurate, for the future study primary method can be used to understand the various factors affecting e-commerce. The consumer behavior during COVID 19 can be studied to understand the mindset of consumers during and after COVID 19 times.

### CONCLUSION

In this study the positive and negative effects of COVID 19 is been discussed. Many companies have started online business, customers have experience online shopping but still negligent due to security and privacy reason. E-commerce was a substitute for traditional shopping for customer and alternative method for the business.

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## **CHAPTER 36**

# **IMPACT OF COVID 19 ON COMMERCE AND ECONOMICS OF INDIAN ECONOMY**

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### **Abstract:**

The COVID-19 pandemic in India is part of the worldwide pandemic of COVID-19, caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). On 30th January 2020, India reported its first case of COVID-19 in Kerala, which rose to three by 3rd February 2020; all of them were students returning from Wuhan. Apart from these, no significant rise in transmissions was observed in the month of February 2020. But all of a sudden on 4th March 2020, 22 new cases were reported, including 14 infected members of an Italian tourist group. On 12th March 2020, a 76 year old man, with a travel history to Saudi Arabia, became the first COVID-19 fatality of India. At one point of time, India had the highest number of confirmed cases in Asia and had the third highest number of confirmed cases in the world after the United States and Brazil with the number of total confirmed cases crossing more than 10,00,000 on 17th July 2020. However, India's 'case fatality rate' is among the lowest in the world at 2.41% as of 23rd July 2020 and has been steadily declining. The economic impact of Covid 19 (Corona Virus) on Indian Economy has been largely devastating and disruptive. Indian Economy was shattered and faced the worst scenario. According to Ministry of Statistics, in the fourth quarter of the fiscal year 2020, India's economy grew at a meager 3.1%. To curb the widespread of Corona virus, Government of India, has announced 21days of complete lock down from 24th March 2020 to 14th April 2020. This three weeks lock down was inevitable to break the infectious cycle of Corona virus. The lockdown was placed when the number of confirmed positive corona virus cases in India was approximately 500. Experts state that the lockdown had slowed the growth rate of the pandemic (doubling every six days) by 6th April and to a rate of doubling every eight days, by 18th April 2020. As the end of the first lockdown period approached, state governments and other advisory committees recommended extending the lockdown period.

On 14th April, Prime Minister, extended the nationwide lockdown until 3rd May, with a conditional relaxations after 20th April for the regions where the spread had been contained or was minimal. On 1st May 2020, the Government of India extended the nationwide lockdown further by two weeks until 17th May 2020. The Government divided all the districts into three zones, on the basis of spread of the virus, namely Green, Red and Orange zones, with relaxations applied accordingly. On 17th May 2020, the lockdown was further extended till 31st May 2020, by the National Disaster Management Authority. On 30th May 2020, it was announced that lockdown restrictions were to be lifted from then onwards, while the ongoing lockdown would be further extended till 30th June, 2020 only for the containment zones. Services would be resumed in a phased manner starting from 8th June 2020.

### Introduction:

Outbreak of covid-19 pandemic and subsequent lock down was a nightmare for the country and put the entire economy at stake. Unemployment rose from 6.7% on 15th March to 26% on 19th April 2020. During the lockdown, an estimated 14 crore (140 million) workers lost employment, while salaries were cut for many others. More than 45% of households across the nation have reported an income drop. The condition went from bad to worse, when only 30 to 40% of the salaries were paid, which brought down the purchasing capacity of the consumers drastically. World Bank defines this pandemic as “magnified pre-existing risks to India’s economic outlook”, because the economic slowdown was very much noticeable even during pre-pandemic. The World Bank and other rating agencies had initially revised India’s growth for fiscal year 2021, with the lowest figures, India has ever seen in three decades, since India’s economic liberalization in the 1990s. On 26th May 2020, CRISIL announced that, this is perhaps, India’s worst recession since independence. India’s GDP estimates were downgraded even to negative figures, signalling chronic recession. State Bank of India research, estimated a contraction of over 40% in the GDP in quarter one of fiscal year 2021. COVID-19 took the world by storm. The virus, along with the lock-down, had a disastrous effect on the economy. The Indian economy was heading for a double-digit plunge as the cases skyrocketed. Although the impact on the economy is widespread, the unorganized sector suffered the most. The already declining labor market was faced with a further decline in demand, due to the pandemic. According to data from 2018-19, 52% of the workforce is self-employed. 24 per cent were casual workers with no financial security whatsoever and the remaining 24 per cent were regular employees. The shock of the pandemic has affected the labor force unevenly and the crisis accentuated the pre-existing inequalities in the labor market (Divya Rai-2020). The International Labor Organization’s (ILO) Global Wage Report said that informal workers experienced a much sharper fall in wages of 22.6 per cent during the Covid-19-induced lockdown.

### Consequences of lock down and sufferings of Indian Economy

- Indian economy passed through demand depression and high unemployment, with multiple lockdowns announced by Government of India, profoundly affected the supply-side, accelerating the slowdown further and jeopardizing the economic wellbeing of millions.
- According to an estimate, the Indian economy is expected to have lost over Rs.32,000 crore (US\$4.5 billion) every day during the first 21-days of complete lock down, which was declared following the corona virus outbreak.
- Unemployment rose from 6.7% on 15th March to 26% on 19th April 2020. During the lockdown, an estimated 14 crore (140 million) people lost employment, while salaries were cut for many others both for those employed in organized and unorganized sectors.
- The World Bank and other rating agencies had initially revised India's growth for fiscal year 2021, with the lowest figures, India has ever seen in three decades, since India's economic liberalization in the 1990s.
- State Bank of India research, estimates a contraction of over 40% in the GDP in quarter one of fiscal year 2021.
- According to Ministry of Statistics, in the fourth quarter of the fiscal year 2020, India's economy has grown at a meager 3.1%.
- With an increasing number of coronavirus cases, the government has locked down transport services, closed all public and private offices, factories and restricted mobilization. This move has taken away the job of many millions, mostly in the unorganized sector. In this scenario, India would go into recession affecting the unorganized sector and semi-skilled jobholders losing their employment.
- The labour sector under the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act), 2005 are worst affected as they are not provided jobs due to lockdown, most of the labour sectors are associated with the construction companies and daily wage earners.
- Travel restrictions and quarantines affecting hundreds of millions of people to leave Indian factories creating shortage of labour and parts, just-in-time supply chains and triggering sales warnings across technology, automotive, consumer goods, pharmaceutical and other industries.
- The unorganised sector especially, suffered a great downfall as the job generation was going down in an alarming rate with the prolonged lockdown and weak GDP. The lockdown has adversely affected service sectors like banks, restaurants, food vendors and food delivery providers at par with providing health safety and medical sustenance. With no income, savings capacity of the people was profoundly affected, creating negative 'cascading effect' in the economy. Due to this, accumulation of savings by banks or financial institutions was greatly affected. This in turn had its adverse impact on Capital formation.

- With larger job cuts and fewer job creation, the spending capacity of the people was taken for toss. With this aggregate demand in the economy was in deep trouble.
- The National Restaurant Association of India (NRAI), which represents 5,00,000 plus restaurants across the country, has advised its members to shut down dine-in operations. This will impact operations of thousands of dine-in restaurants, pubs, bars and cafes. Orders on Swiggy and Zomato have dropped 60 per cent amid the pandemic.
- As per the Ministry of Agriculture, the supply of the food and Agriculture products will be affected in the coming seasons due to low sowing, which will affect the mandi operations. The companies, which deal with Agro-chemical depend on export for finished goods and import of raw materials. Fruits and vegetables, Bricks and Mortar, Grocery, Retail chains were operating, but with the shortage of staff has definitely affected its operation.
- With the shortage of labour, the food processing units were facing a hunch in normal functioning, despite the government was trying to ease out the situation. until then the factories have to adjust working with low labour count.
- Maharashtra, Uttar Pradesh, Bihar, Tamil Nadu and Madhya Pradesh have the highest number of registered MSMEs. According to an estimate, about a quarter of over 75 million were facing closure and if situation worsens, it would affect the employment of 114 million people, which in turn would affect the GDP. Consumer goods, garments, logistics were facing a sharp drop in the business and the MSMEs engaged in the service sector were still operating, however, is likely to isolate due to plunging liquidity constrains and purchasing capacity.
- Few sectors like cinema malls, schools, colleges, gym, metros, international air transport, swimming pools, entertainment parks, assemblies, community halls etc., were not permitted to begin their operation. This will have negative cascading effect on the economy.
- Up to 53% of businesses in the country were significantly affected. Supply chains have been put under stress with the lockdown restrictions in place; initially, there was lack of clarity in streamlining, what an 'essential' is and what is not? Those working in the informal sectors and daily wage groups have been at the most risk. A large number of farmers around the country who grew perishables also faced uncertainty.
- Major companies in India such as Larsen & Toubro, Bharat Forge, UltraTech Cement, Grasim Industries, Aditya Birla Group, BHEL and Tata Motors have temporarily suspended or significantly reduced operations.
- Young startups were impacted as funding has fallen. Fast-moving consumer goods companies in the country have significantly reduced operations and were focusing on essentials. Stock markets in India posted their worst loses in history on 23rd March 2020. All in all, the entire atmosphere was in despair, gloomy and pessimistic. This was the worst possible situation, which could happen to an economy.

Special focus on the travails of unorganized sector workers

According to National Sample Survey Organisation (NSSO), the total employment in the country was of 46.5 crore comprising around 2.8 crore in the organised and the remaining 43.7 crore workers in the unorganised sector, which amounts to 94% of the total work force. Apart from employing 94% of the work force, unorganised sector is vital as it contributes around 50% of national GDP. Out of these workers in the unorganised sector, there are 24.6 crore workers employed in agricultural sector, about 4.4 crore in construction work and remaining in manufacturing and service sector.

Due to lack of job security and social security benefits, in the unorganized sector, the areas of exploitation are very high, resulting in long working hours, unsatisfactory working conditions and occupational health hazards. The working conditions are not safe. Unawareness and lack of proper rules and policies within the unorganized sector makes the workers feel insecure. In the unorganized sector, workers are mostly employed in hazardous occupations, there is lack of social security and they are made to work long hours. The workers who are employed in hazardous occupations and in other sectors, such as agriculture, plantations, factories; mines etc. experience health problems and are vulnerable to diseases. Agricultural workers, in general, experience certain specific health problems, due to extensive use of fertilizers, insecticides, pesticides and mechanization. The increasing use of chemicals and biological agents with hazard potential that individuals are unaware of the indiscriminate use of agro-chemicals including pesticides, agricultural machineries and equipment, and their impact on the health and safety of exposed population, pose serious safety and health risks for mainly the workers, who are employed in the agricultural sector (Report on Conditions of Work and Promotion of Livelihoods in the Unorganized Sector, 2007). The lives of unorganized workers, which was already bad, went from bad to worse, due to Covid-19 lock down enforced by the government of India. With no job and income, their life was totally shattered and destroyed.

Fiscal stimulus for recovery

Ø During lock down nearly all services and manufacturing units suspended their operations. The government held meetings with e-commerce websites and vendors to ensure a seamless supply of essential goods across the nation during the lockdown period. Several states announced relief funds for the poor and affected people and the central government came out with its stimulus package.

Ø On 19th March 2020, the formation of the 'COVID-19 Economic Response Task Force' was announced by the Prime Minister. The task force was led by the finance minister. Though not formally constituted or no official date for relief packages being made, the consultation process with concerned parties had begun immediately.

The Ministry of Finance immediately started consultations with the RBI and ministries to take stock of most affected sectors like aviation, hospitality and MSMEs. On 21st March 2020, the Union cabinet approved incentives worth Rs. 40,995 crore (US\$5.7 billion) for electronic manufacturing.

Ø On 24th March 2020, in his address to the nation, the Prime Minister announced Rs. 15,000 crore (US\$ 2.1 billion) fund for the healthcare sector. The Finance Minister made a number of announcements related to the economy such as extending last dates for filing GST returns and income tax returns. The due dates for customs clearances and for compliance matters under the Customs Act and associated laws was extended to June 2020.

Ø On 25th March 2020, the Government of India announced the world's largest food security scheme for 800 million people across the country. Finance Minister announced a number of economic relief measures for the poor. Rs. 1,70,000 crore (US\$24 billion) will fund the Pradhan Mantri Garib Kalyan Yojana, which will provide both cash transfer and food security; with the aim that no one goes hungry amidst the lockdown. Pradhan Mantri Ujjwala Yojana beneficiaries will get free cylinders for at least three months. This will benefit over 80 million Below Poverty Line families.

Ø The government made the payment of the first installment (Rs. 2,000) due in 2020–21 in April itself under the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). For the organised sector worker, the government will pay the Employees' Provident Fund (EPF) contributions of both sides for 8 million employees of small companies who earn up to Rs. 15,000 a month. The raise in the threshold from Rs. 100,000 to Rs. 10 million for triggering insolvency proceedings under the Insolvency and Bankruptcy Code (IBC) was done to help MSMEs.

Ø The Reserve Bank of India (RBI) Governor made a number of announcements including EMIs being put on hold for three months and reducing Repo Rates. Other measures introduced will make available a total Rs. 3,74,000 crore (US\$52 billion) to the country's financial system.

Ø Prime Minister launched a new fund called PM CARES fund for combating corona virus-like situations. World Bank approved US\$1 billion emergency financing for India to tackle corona virus labeled 'India COVID-19 Emergency Response and Health Systems Preparedness Project'.

Ø Central government released Rs. 17,287 crore (US\$2.4 billion) to different states to help combat corona virus. The Ministry of Home Affairs approved Rs. 11,092 crore (US\$1.6 billion) for states as relief under the State Disaster Risk Management Fund.

Ø 30% salary cut for one year was announced for the President, Vice President, Prime Minister, Governors, Members of Parliament and Ministers. It was also decided to suspend the MPLADS for two years and transfer the money, about Rs. 7,900 crore (US\$1.1 billion), into the Consolidated Fund of India.

Ø Asian Development Bank (ADB) assured India of Rs.15,800 crore (US\$2.2 billion) assistance in the COVID-19 pandemic fight. RBI announced more measures to counter the economic impact of the pandemic including Rs.50,000 crore (US\$7.0 billion) special finance to NABARD, SIDBI, and NHB.

Ø On 12th May 2020 the Prime Minister announced an overall economic package worth Rs. 20 lakh crore (US\$280 billion), which is 10% of India's GDP. "One Nation One Ration Card" scheme was emphasized.

Ø Operation Greens was extended from tomatoes, onion and potatoes (TOP) to all fruits and vegetables. Cereals, edible oils, oil seeds, potato and onion were deregulated (except in exceptional circumstances) and no stock limit shall apply for storage as was proposed Amendment in Essential Commodities Act (1958). Matsya Sampada Yojana was announced for fisheries and animal husbandry infrastructure fund was announced. Agri-infrastructure fund, agricultural marketing reforms for farmers and fair price legal framework support for farmers were among other things covered.

Ø The Garib Kalyan Rojgar Abhiyaan was launched to tackle the impact of COVID-19 on migrant workers in India. It is a rural public works scheme with an initial funding of Rs. 50,000 crore (US\$7.0 billion) covering 116 districts in 6 states.

Ø The Government of India is aiming to attract companies that wish to move out of China or are looking for an alternative to China. The PM's office is conveying to the government central and state machinery to ready pro-investment strategies. A total of at least 461,589 hectares has been earmarked for the purpose.

### Conclusion:

As the famous saying goes "there exists silver lining at the end of every dark cloud". After this transition, the rays of hope started appearing on the business horizon. Pessimism slowly got replaced by optimism. Recovery helps to restore confidence of the business people and creates favourable climate for the new business and business men take more risks and invest more. Due to existence of considerable excess capacity in the economy, output increases without a proportionate increase in total costs. Repairs, renewals and replacement of plants take place. Increase in government expenditure stimulates the demand for consumption goods, which increases the demand for capital goods. The construction activity received an impetus. As a result, the level of output, income, employment, wage level, prices, profit started rising. Through multiplier and acceleratory effects, the economy proceeded upwards steadily and rapidly. The process of recovery once started takes the economy to the peak of prosperity, which is quite evident in the financial year 2022-23. Now India is a fifth largest economy with a GDP of over \$3 trillion. It is one of the fastest growing economy in the world, with a growth rate of 8.7% in the last quarter.

The initiation taken by the government in the form of augmenting the autonomous investment to boost the economy has started yielding fruitful results and creating positive ‘cascading effects’.

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## CHAPTER 37

# A STUDY ON DEVELOPING A FRAMEWORK FOR NEW — NORMAL SUPPLY CHAIN MANAGEMENT WITH SPECIAL REFERENCE TO COIMBATORE DISTRICT

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### Abstract:

The growth of green marketing research dates back to 1980s when there was emergence of concept of green marketing. Early literature indicates green marketing to be an approach which indicated signs of shift in consumer attention to green product. Nowadays people started to realize their role and responsibilities. The current study introduces the concept of green product and looks into the various ways in which the different consumer satisfactions are related to the concept of green products. A conceptual framework is presented and the information is analyzed on the basis of the framework. It has exposed the risks of complex and disconnected Supply Chain. Many businesses have realized that, they need to reach a state of greater visibility and agility across their Supply Chain. This crisis has forced practical, agile thinking, giving the courage to test, fail fast and try again. Digital transformations that would have taken months or years are being done in a matter of weeks.

In view of the above perspective, this paper first studies the various initiatives taken by companies to make their end-to-end Supply Chain resilient, agile and robust. Then it identifies various factors for a new age technologies that are evident for new – normal Supply Chain Management. Using new rough Stepwise weight Assessment Ratio Analysis (SWARA) approach that factors are evaluated for most appropriate factor required for implementation.

### Key words:

New-normal, Supply Chain Management, Digital Supply Network, E-Procuring  
Keywords: COVID-19, investment behaviour, behavioural bias, idiosyncratic risk, herd behaviour, overconfidence, risk-taking

JEL Code: G11, G12, G14, G22.

The term Green Marketing came into prominence in the late 1980s and early 1990s. The American Marketing Association (AMA) held the first workshop on "Ecological Marketing" in 1975. The proceedings of this workshop resulted in one of the first books on green marketing entitled "Ecological Marketing". The Corporate Social Responsibility (CSR) Reports started with the ice cream seller Ben & Jerry's where the financial report was supplemented by a greater view on the company's environmental impact. In 1987 a document prepared by the World Commission on Environment and Development defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own need", this became known as the Brundtland Report and was another step towards widespread thinking on sustainability in everyday activity. Two tangible milestones for wave 1 of green marketing came in the form of published books, both of which were called Green Marketing. They were by Ken Peattie (1992) in the United Kingdom and by Jacquelyn Ottman (1993) in the United States of America. The outbreak of coronavirus was a sudden and unexpected incident. Almost the entire World is affected with the working of various industries coming to a halt. Situations like

Lockdown, Quarantine, Mental Distraction and Job Loss are the major outcomes of the pandemic. This has also created a huge burden on Medical facilities. Due to Job losses, Medical facilities are not reaching the lower strata of the Society. There is a Demand – Supply mismatch where the demand of certain goods like face shields and pharmaceutical products is very high but the supply is negligible compared to this demand. On the other hand, there is no demand for goods like Cars, jewellery, shoes etc. and the supply is high. Due to this, the Global Supply Chain (SC) is disturbed. Due to the pandemic, 12000 facilities of more than 1000 SC companies are under quarantined areas in China (Ivanov and Dolgui 2020). Manufacturers of SC lack labor to perform production activities, in spite of ample availability of raw material.

India has faced the worst recession due to the outbreak of corona virus after the great depression in 1930. The GDP growth rate is 1.9%, which is the lowest recorded figure due to corona virus.

International trade has drastically declined and companies majorly dependent on trades have suffered huge losses.

The two main objectives of any corporate in the current scenario are:

- Managing the cash flow which is the most important chunk of operating capital during this pandemic and surviving in this lockdown with sharp downturn

### Designing the Supply Chain for the newnormal

On advice of the World Health Organization, the Indian Government announced an unanticipated lock down, which led to a spike in demand for groceries and fast moving consumer goods. It was a challenge for the outbound SC to function smoothly as consumers were buying the available products without considering the brand. This forced retail distributors to increase the speed of replenishment, for satisfying the customer demand.

The scenario was opposite in the Inbound SC. Organizations were trying their best to cover up their inventory for longer lead-time. There was short supply due to the sudden lock down announced by government authorities. Organizations were looking for alternative resources. Most of the industries were focusing on protecting the businesses until the pandemic got over, by acquiring their supplies either through local or global sources to sustain their business activities

The key impact of the pandemic on the SC planning was to apply different strategies for the forward and backend/backward SC. In the normal conditions, the forward and backend/backward SC were working in congruence.

As we look ahead, there is no “one size fits all” model and companies will have to work closely with their manufacturing, logistics, distribution, marketing and sales department to define their future SC. This is where the need for designing SC for the “new normal” comes in to the picture.

### Objectives of the Study:

- To understand initiative taken by organizations to make their end-to-end Supply Chain resilient, agile and robust
- To identify the factors to redesign Supply Chain

### Literature Review:

A Study on Consumer Preference towards Green Marketing Products by Dr.S.M Yamuna, says that According to research consumer demographic and socio-economic characters respond positive in purchasing green products moreover, respondents suggested that green products are low priced and eco-friendly. Green products generally use eco-friendly materials and energy-efficient means of production, thereby causing less or no detrimental impact on the environment.

Elkington (1994: 93) defines green consumer as one who avoids products that are likely to endanger the health of the consumer or others; cause significant damage to the environment during manufacture, use or disposal; consume a disproportionate amount of energy; cause unnecessary waste; use materials derived from threatened species or environments; involve unnecessary use of, or cruelty to animals; adversely affect other countries

**Green Marketing:** Green marketing is the marketing of products that are presumed to be environmentally preferable to others. Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, sustainable packaging, as well as modifying advertising.

**Green Products:** Green products can be defined as “Products which have minimal impact on the environment” in today’s world, we have lot of green marketing products which are mostly not known to people and awareness about the products are also very low. Let’s see some of world’s famous green energy products. · Power from wind and solar energy · Solar heater · Solar kitchen appliances · Gas fitted vehicles · CFL bulbs · LED Lights · Green data centers · Electricity powered vehicles · Electric kitchen appliances

1.5 **Need for Green Products:** A consumer products companies found that greater focus on health and well-being, a rising incidence of allergies, and concern about chemical safety have all increased demand for organic and natural household and personal products. Companies are responding with products such as Clorox’s recently launched Green Works, a line of household cleaning products that contain environmentally friendly cleaning agents. So green marketing is inevitable.

### 2.1 Supply Chain Management

Various definitions of Supply Chain Management (SCM) have evolved thereby making it a very important process. SCM is the management of business processes in organizations that handle SC (Croxtton et. al., 2001). Traditional SC was linked with purchasing and logistics management but with the advancement over traditional ways of purchasing and logistics, SCM is management of materials and distribution (Tan, 2001). The main role of SCM is to convert raw materials into finished goods and deliver the same to end users in a timely manner (Vincent & Venkataramanan, 2007). The whole of SC majorly consists of retailers, distributors, manufacturers, and suppliers who give goods and services to end users and add value to upstream and downstream channels through movement of information and resources. It also aims at improving product or service attractiveness (Machowiak, 2012). For the development of economy, creating a demand and supply balance is very crucial. This is where SCM plays a role. It incorporates supply and demand management inside and across companies (Randall and Mello, 2012). Apart from demand and supply management it regulates the relationship within the chain of people involved in the process (Min and Mentzer, 2011).

### 2.2 Initiative by Organizations during the Pandemic

With the pandemic disturbing and disrupting the SCM, many organizations have taken various initiatives to improve the SCM and bring it back on track. Using various literatures this paper has listed the initiatives.

- 1) Majority of the offices are located in Metro cities like Kolkata, Bangalore and Mumbai, but due to the pandemic companies are considering the options of work from home or working once a week from office. Due to this people are moving towards non metro cities considering it as low income cities. Also many organizations are looking forward to move their offices to non metro offices.
- 2) For fulfilling the desired positions in organizations, companies are recruiting people from anywhere in the world. Hence, location is not a constrain for job since people will work from home. This has also attracted highly talented people.
- 3) With lower travelling and more time saved, organizations are giving more growth options in terms of training and development.
- 4) The pandemic has made organizations believe that having one or multiple specialization of the same product is not enough. Hence, many companies are now opting for multiple variations in the product line. Manufacturing and selling of hand sanitizers by a liquor company, making masks for all occasions by fashion industry and manufacturing medical equipments like ventilators by an auto company are some of the initiatives.

### 2.2 Robust SCM and use of new age technologies

SC has to undergo tremendous change in its way of functioning. The robust implementation of SC can be implemented with the use of new age technology and drastic ways of processing.

The first and the main component of SC is manufacturing. Manufacturing is labor driven work where laborers play a major role in the production activity. Not only skilled but motivated labor is the need of the hour. However, in recent times we have seen the behavior changing among laborers. They find production unimportant. They decide that the commodity they produce is not essential and so are absent from their jobs. Their families deciding not to return to work influence some. Some face problem due to travelling because of restrictions and lockdowns.

Instead of sticking to conventional ways of procurement networks, having a digital SC is the way out. Digital supply chain networks are fast. There is continuous flow of information with the supply network and due to its integrated nature and use of analytics it helps organizations remain connected with all the stages of SC. E-Procurement is one of the techniques used now – a – days by companies to overcome the problems of manufacturing (Chang et al. (2013). Olig and Spears, 2001 mentioned various advantages of it. Electronic Procurement or E-Procurement defined in its basic form, is the usage of electronic resources like Internet, E-Mail etc. for buying and selling of goods or rendering services (Carayannis and Popescu, 2005). It includes ordering through electronic means, use of portals, extranets and EDI (Electronic Data Interchange) for bidding processes (Dooley and Purchase, 2006); purchasing cards and reverse auctions are also included (Moon, 2005). Connecting multiple organizations electronically to handle the purchasing procedure is the main motive (Dooley and Purchase, 2006).

Electronic Sourcing or E-Sourcing is the identification of new suppliers over the Internet, including tendering in which requests for prices and related information are sent. (De Boer et al. (2002).

Further to adding new technologies, Artificial Intelligence (AI) holds space in SCM. It is the ability of machines to communicate with humans and reproduce the capacities of humans (Holsapple & Whinston, 1990). It is helpful in various areas to solve problems, has high accuracy, higher speed and can take large amount of data. Artificial neural network (ANN) which is a variant of AI helps in forecasting techniques (Ketter et al., 2011), used for pricing of products and services (Peterson and Flanagan (2009)) combining with k-means it is used for customer segmentation. Genetic Algorithm (GA) conducts sales promotion and other promotional activities. Taratukhin and Yadgarova, 2018, suggested a technique to handle product life cycle using multi-agent systems (MASs). Lee et al.(2011) suggested a way to handle logistics workflow using AI in combination with radio-frequency identification (RFID). AI is also used to control and suggest improvement in Quality of products and services.

Use of robots in SC is now picking up demand. SC integrated with robotics is the future of SCM. With options of relocation due to the pandemic success in terms of quality and productivity is achieved. The E-commerce giant Amazon in 2012 had acquired Kiva systems. The only reason was to increase its pace of picking and packing using robots used by Kiva Systems, though it had to invest heavily for the acquisition. Within two years of the acquisition Amazon started using automated robots in its various centers. The robots transport goods from one inventory store to another, goods that are ordered are picked up manually and others are automatically returned to the

shelves in the store. In future robots will be used for truck unloading, collecting orders, inventory examining and transportation of goods. Robots will also be used to deliver goods to customers and customers can track the robots using mobile applications. For a failure in robot, there would be a robot kept as a backup and for repairing the broken robot, fixing would be done using cloud where the data is stored.

The concept of blockchain is widely discussed in the SC organization. It is a database, which can be accessed by peer-to-peer network. In this, sequential blocks are linked together, for a timely transaction to happen and are secured by a cryptographic key on a network that is verified. Once a component is added to it cannot be changed or altered which makes blockchain a reliable source for past records (Seebacher et al.(2017). Blockchain is highly beneficial for SCM as it is traceable, trusted, and reliable for all members of SC. It can also help in reducing the operational cost by eliminating intermediaries.

Although there is great potential for IoT in SCM, the real business value of IoT in the SC has not yet been fully recognized or thoroughly addressed. According to a survey by Accenture to large global companies with more than 1,000 senior managers, most companies (about 90%) still have difficulty understanding how the IoT can benefit their SC. By linking machines, products, people, and SC members, the IoT provides a new environment for supply chain managers. It enables process integration and information communication, allows machine enabled decision-making and fosters more efficient and effective SCM. In this, entirely new business and technology environment, supply chain managers need to, innovate their traditional SCM practices and strategies (Li B. & Li Y., 2017).

Various other providers of services and model would be created in the upcoming future. The only criteria for them to continue in the market would be the extent to which they can keep up their promises. There can also be a change in the behavior of competitors. The only way to understand and survive in the changing environment is to do scenario analysis. It implies how to innovate your operations, what model fits the best and what ecosystem the business should have.

### Research Methodology:

New Rough Stepwise weight Assessment Ratio Analysis (SWARA) approach has been developed, by (Zavadskas et al., 2018) is a relatively new method used to solve problems in various areas. In this method, experts plays a major role in evaluation. Using their own expertise, they rank all the criteria's with rank 1 as most significant and the least significant is given the highest rank. The ranking of the experts is the main component of this method. In addition, this method is easy to apply. The decision making process using this technique, is achieved quickly and accurately. This research is undertaken to assess the factors for a robust SCM post the pandemic situation.

#### 1. Working of Rough SWARA Method

The rankings collected by the Experts consist of the first two steps of the method. In the third step, individual responses of the experts are converted into group matrix  $c_j$ . In the fourth step, the previous matrix is normalized wherein the worst ranked criteria will have highest value. Also the first element is equal to one while other elements are found by dividing the elements with the highest value. In the fifth step all the elements expect the first one which has value 1, has to be added with number 1 and a new matrix "kj" is formed. In the sixth step the weight matrix in terms of "qj" is recalculated by diving "q(j-1)" with  $k_j$  retaining value which is the first element. In the seventh and the last step relative weights of the criteria are obtained.

**2. Data Collection**

Data was collected from experts having experience of more than 10 years. Experts were practitioners of SC holding various strategic positions in production, procurement, sales, logistics, distribution etc. of multiple industry. These experts were chosen with an intension that they are well versed with the existing problems and the changing pattern of the SCM industry. Data collection was done through a structured questionnaire distributed through e-mails. Out of 50 questionnaire distributed, 23 responses were received.

**3.Factors Identification**

Literature review explains various factors that required for a robust and agile SCM. Using the literature 4 main criteria and 14 sub criteria are identified. They are listed down as per the following table and are validated by the experts

<b>Codes</b>	<b>Main Criteria</b>	<b>Sub Criteria</b>
C1	Inventory Buffering	
C1-a		Alternate Sourcing
C1-b		Securing Critical Inventory
C1-c		Shared Resources
C1-d		Diversification
C2	Digital Supply Network	
C2-a		Artificial Intelligence
C2-b		Robots
C2-c		Internet of Things
C2-d		Blockchain
C3	Work Environment	
C3-a		Flexible
C3-b		Restricting non-essential travel
C3-c		Location Tracking
C4	Alignment of I.T. Systems	
C4-a		System Stability
C4-b		Network Robustness
C4-c		Data Security

### 1. Detailed Calculation Stepwise of Rough SWARA

The Rough SWARA calculation is first performed on the 4 main criteria followed by 14 sub criteria. 23 experts were asked to rank the 4 main criteria in the range of 1 to 4, where 1 is the best rank and 4 is the worst rank. The same procedure is followed for 14 sub criteria.

As per the Relative Weights table of Main Criteria we can find out that Digital Supply Network received the high weightage as per experts followed by Alignment of IT systems. Work environment and Inventory Buffering received the least weight.

Looking at Relative Weights table of Sub Criteria, C2c that is criteria resembling IOT receives the highest weights followed by C2d which is Blockchain. Network robustness and System stability received 3rd and 4th highest weights respectively. The other criteria received lower weights as mentioned in the above table.

#### Implications of the research

The spread of COVID 19 pandemic has affected large number of companies. The SC cycle has also been effected and new avenues to revive it is necessary. The study accessing the factors for a new normal SC reveals that use of Digital Supply Network is required for reviving the SCM cycle. Companies should re-examine their SC network. To infuse the agility in SC, scalable solutions combined with automation is the key. While going after agility, firms should also consider the cost, as no organization wants their operational expenses to go up.

During the pandemic, the firms that are in close connection to their suppliers managed to get their requirements fulfilled, this is how the vendor management played key role in this crisis.

Due to the lockdown, online shopping is the new normal for the shoppers, and this is helping e-commerce to grab larger portion of the business. This is the new phase of the supply chain with no historical data to refer. Businesses are in dilemma whether current trends will sustain in the future.

Therefore, the top priority of the management should be to address the following queries-

- Predict the portion of the online business in total sales
- Whether to focus on opening more retail joints?
- Identifying the behavioral changes that will continue and those that will return to old normal once the pandemic is over.

In the current scenario, external factors play very important role in demand forecasting and planning, therefore demand planners have to re-evaluate their existing model and inculcate these external factors.

### Conclusion

The current scenario brings up the fact that companies cannot control the demand; therefore, to cope with the ever-changing demand pattern, they have to build flexible SC and production systems.

For accurate planning, precise forecasting is must and for precise forecasting, the use of big data and machine learning is must. Further, firms cannot rely on available metrics – particularly for planning. Undoubtedly, it is time to move to the new metric – net promoter score to measure the effectiveness of the SC to meet customer expectations.

This is the era, where data is available in abundance right from the point of sale to the consumer buying behavior. Data driven decision-making has enabled the demand planner to take accurate decision. Tools like artificial intelligence and machine learning are aiding decision-making process through extracting valuable information out of big data. Going forward, SC transformation will play key role in enhancing the business performance.

## CHAPTER 38

### POST-PANDEMIC TRENDS IN DECENT WORK IN INDIA

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An Abstract

Objectives:

This paper aims to focus on providing decent work to the human resource of India in the post-pandemic times that adversely affected the labour markets and employment scenario across the globe, particularly in the developing countries. It examines the future of work in India in the scenario of the growth of digitally enabled jobs that emerged as a solution to huge layoffs and loss of physical on-site jobs. It aims to provide an analysis of one of the seventeen Sustainable Development Goals (SDGs), (whose period is from 2015 to 2030), The SDG in focus is 'Decent Work and Economic Growth' with reference to India. The SDGs are a welcome and much needed change from the Millennium Development Goals (MDGs) (whose period was from 2000 to 2015).

Methodology:

It is secondary research mainly based on the data obtained from government statistics and internet.

Significant results:

It provides an analysis of the global and national policies and programs to achieve decent work in India.

Implications:

An analysis of the future of work, with special focus on digitally enabled jobs, is also done to understand the nature of these jobs and discuss the relevant laws and government regulations to ensure decent work for the people engaged in the digitally enabled jobs. The researchers examine the possibilities of the sustainable growth and development of India in the future with respect to ensuring decent work for all by taking advantage of the digitally enabled jobs.

Keywords: Post-pandemic trends, Decent Work, Digitally Enabled Jobs, Future of Work, Sustainable Growth and Development.

Keywords: COVID-19, investment behaviour, behavioural bias, idiosyncratic risk, herd behaviour, overconfidence, risk-taking

JEL Code: G11, G12, G14, G22.

### Introduction:

During and post-pandemic, our world and lives have changed drastically, especially in the world of work and employment. Massive layoffs, loss of permanent, and onsite jobs have been the new normal with online modes of work being accepted by the employers and employees alike. The paper focuses on newly emerging Digitally Enabled Jobs, that are a pathway to decent work for all in India and all around the globe.

The key concepts associated with this paper are explained in the following paragraphs.

### Digitally Enabled Jobs:

Digitally Enabled Job is a job which is performed with the help of 'Jobtech'.

(Challenge Fund for Youth Employment), "It refers to the use of technology to enable, assist, or improve people's ability to access and deliver quality work. It also has the greatest potential to drastically and inclusively enhance work for youth."

(Challenge Fund for Youth Employment), "The McKinsey Global Institute estimates that 540 million people worldwide will find work through digital platforms by 2025."

(Challenge Fund for Youth Employment), "In these unprecedented times of global challenges, the future stability of the working world appears to be under threat. With urbanization and environmental challenges directly affecting future generations, the question is how do we secure a sustainable future for businesses and their employees? Digitalisation and globalisation have sparked radical shifts in how we live and work. Recent events have accelerated these trends even further by spurring the fourth industrial revolution. It has increased the need for reshaping the world of work. In this revolution, almost all jobs will change. Digitally enabled jobs provide a viable solution to combat these challenges and create decent jobs."

Technology has brought about many changes in the employment situations in the labour markets in developed countries.

### Decent Work:

(International Labour Organization), "Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for all, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men."

(International Labour Organization) "There has been an increased urgency among international policymakers, particularly in the wake of the global financial and economic crisis of 2008, to deliver quality jobs along with social protection and respect for rights at work to achieve sustainable, inclusive economic growth, and eliminate poverty."

Future of work:

(HR Q&AS, SHRM). “Simply put, the future of work is a projection of how work, workers and the workplace will evolve in the years ahead.”

Sustainable Economic Development:

Ellis J (2023) "Sustainable economic development refers to the balance of economic growth with social and environmental needs. In order for economic growth to be considered sustainable, it must not compromise resources or environmental factors for the future.”

Decent Work for People Involved in Digitally Enabled Jobs

Decent work for people involved in digitally enabled jobs is a result of various policies and laws in the nation and the various global practices. This is analysed in the following paragraphs.

Policies, Programmes and Laws related to Digitally Enabled Jobs:

Omar, P. (2022, August 3) “Indian Information Technology (IT) Industry directly employs around 51 lakh persons in FY 2021-22, most of which are IT skilled, the statement read. In addition, with increasing digitalization under the Digital India program in the last 7 years, other economic sectors have created large opportunities for digitally enabled jobs.

Moreover, to develop the future work force in emerging digital skills, Ministry of Electronics & IT (MeitY) and National Association of Software and Services Companies (NASSCOM) have jointly initiated a programme titled ‘Future Skills PRIME (Programme for Re-skilling/Up-skilling of IT Manpower for Employability)’ which aims to create a re-skilling/up-skilling ecosystem in futuristic technologies. Under the Future Skills PRIME program so far, 8.20 Lakh candidates have registered on the Future Skills PRIME Portal, out of which, 1.36 Lakh candidates have completed their courses. Further, as per NASSCOM, some of the measures taken by industry for manpower planning and skill development training include alliances with academia for training the employee base, innovation and research & development across areas of emerging technologies, internal re-skilling programs and platforms, collaborations with other education technology companies.”

DH Web Desk (2021, Feb 17) “For years, gig workers and platform workers, belonging to the unorganized sector of the labour force, were not officially defined by the government. These workers were not paid in salaries, thus stripping them of benefits like health insurance and Provident Fund.

Platform workers, on the other hand, according to the government, are those who work outside of a traditional work relationship and ‘use an online platform to access other organisations or individuals to solve specific problems or to provide specific services’

The new labour codes in India plan to provide social security benefits to the workers working with online platforms.

DH Web Desk (2021, Feb 17) “The Central government proposes to universalise benefits in health and maternity matters, life and disability cover, etc. The state government is supposed to ensure the workers' benefits like provident fund, skill upgradation, and housing”

DH Web Desk (2021, Feb 17) “To avail of these proposed benefits, the government has proposed to set up an online portal by June 2021 for all the eligible unorganised workforce in the country. The gig and platform workers will mandatorily register on the portal. The eligibility criteria include: that the worker is above the age of 16 and below 60. They have at least worked 90 days in the previous 12 years. He or she is directed to submit self-declaration electronically or otherwise and other documents including the Aadhaar card. The central government may also nominate five representatives of gig and platform workers to the National Social Security Board which will frame policies covering the unorganised sector.

In addition, the codes mandate the aggregators, o

r the employers in the case of gig workers, to contribute a specified percentage of the turnover towards a social security fund for the welfare of the unorganised sector.”

Ganguly, S. & Ramesh, A. (2023, Jan 25) “Pursuant to the recommendation of the National Commission on Labour to consolidate central labour laws, the Ministry of Labour and Employment introduced the Code on Social Security, 2020 (Code) which recognizes workers such as building workers, contract labour and unorganized workers. Additionally, the Code introduces and recognizes gig workers and platform workers. Pursuant to the enactment of this Code, social security would be provided to all employees and workers, either in the organized, unorganized, or any other sector. The Code replaces various labour and employment legislations which had varied applicability and coverage such as the Employees’ Compensation Act, 1923, the Maternity Benefit Act, 1961, the UWSSA, and the Payment of Gratuity Act, 1972. Currently, the Code is not in effect as the State Governments of each state in India are in the process of finalizing the rules for the purposes of the Code.”

Ganguly, S. & Ramesh, A. (2023, Jan 25) “The Code defines a ‘gig worker’ as ‘a person who performs work or participates in a work arrangement and earns from such activities outside of traditional employer-employee relationship’. ‘Platform work’ is defined as ‘a work arrangement outside of a traditional employer-employee relationship in which organisations or individuals use an online platform to access other organisations or individuals to solve specific problems or to provide specific services or any such other activities which may be notified by the Central Government, in exchange for payment’.

Working conditions of people involved in Digitally Enabled Jobs

In the book “Digital Labour Platforms and the future of work: Towards decent work in the online world” by International Labour Organization.”, various types of digitally enabled jobs are explained and certain measures for improving working conditions of people working on online platform are examined.

Berg, et.al (2018) “Crowdwork is sometimes treated as a ‘new’ kind of work: a transformation of labour predicated by the development of the Internet and the online platforms that currently support it. The argument that these platforms are ‘new’ – something not quite the same as traditional ‘work’ – has been one way that online labour platforms have attempted to evade existing labour regulations. Microtask platforms are those crowdwork platforms that provide businesses with access to a large flexible workforce distributed across the globe for performing numerous small and quick, often repetitive, tasks. Microtask platforms share many common features, including the worker-platform-client employment arrangement and the platform business model. Algorithmic management of the workforce is a defining feature of digital labour platforms. It concerns the web-based microtask crowdsourcing platforms and the ‘location-based’ digital labour platforms that direct workers to deliver local services, including in transport.”

In order to achieve the ‘Sustainable Development Goal – 8 -, Decent Work and Economic Growth’, Decent work needs to be provided for people involved in digitally enabled jobs thereby leading to the growth of Indian Economy in the digital era.

(International Labour Organization) “During the UN General Assembly in September 2015, decent work and the four pillars of the Decent Work Agenda – employment creation, social protection, rights at work, and social dialogue – became integral elements of the new 2030 Agenda for Sustainable Development. Goal 8 of the 2030 Agenda calls for the promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work, and will be a key area of engagement for the ILO and its constituents. Furthermore, key aspects of decent work are widely embedded in the targets of many of the other 16 goals of the UN’s new development vision.”

(McKinsey & Company), “The world of work is changing. Artificial intelligence and automation will make this shift as significant as the mechanization in prior generations of agriculture and manufacturing. While some jobs will be lost, and many others created, almost all will change. The COVID-19 crisis accelerated existing trends and caused organizations to re-evaluate many aspects of work.”

### Way Forward

In order to improve the working conditions of people working on online platforms, the many suggestions are given by ILO in the book ‘Digital Labour Platforms and the future of work: Towards decent work in the online world’. They are discussed in the following paragraphs.

People engaged in digitally enabled jobs should not be misclassified as self employed. They should be able to organize themselves. They should be given minimum wages. They should be paid full amount for which clients are billed, in real currency.

They should know who their customers are and the purpose of their work. They should have a right to continue a work relationship with a client off the platform. They should not be penalized for declining work. In the event of technical problems, they should not pay for the lost time or work. Their contractual terms related to work conditions and pay should be clear and concise. Their evaluation should not be based on non-payment rates and workers should be given reasons for negative ratings. They should be allowed to contest non-payment, negative evaluations etc. They should have a way to review clients. Customers and platform operators should respond to worker communications promptly, politely and substantively. There should be strict rules for non-payment of work (if it is allowed). A Code of conduct should be established. The tasks on the digital platforms should be evaluated and the tasks that may be psychologically damaging should be clearly marked by platform operators in a standard way. The social insurance mechanisms should be changed to cover workers in all forms of employment, independently of the type of contract. Technology should be used to simplify contribution and benefit payments. Social protection mechanisms need to be set up.

### Conclusion:

In this paper, the researchers have focused on the ways of providing decent work to the people engaged in digitally enabled jobs and we have also examined the future of work in India in the scenario of the growth of digitally enabled jobs. In this paper we have provided an analysis of one of the seventeen Sustainable Development Goals (SDGs), (whose period is from 2015 to 2030), The SDG in focus is 'Decent Work and Economic Growth' with reference to India, which is a service hub of the world and the fastest growing economy in the world.

In this paper, the researchers have conducted secondary research which is mainly based on the data obtained from government statistics, published articles, websites of various national and international organizations and research firms.

In this paper, the researchers have provided an analysis of the policies, programs and laws to achieve decent work in India.

This analysis of the future of work, with special focus on digitally enabled jobs, has been done to understand the nature of these jobs and discuss the relevant laws and government regulations to ensure decent work for the people engaged in the digitally enabled jobs. The researchers examine the possibilities of the sustainable growth and development of India in the future with respect to ensuring decent work for all by taking advantage of the digitally enabled jobs.

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- Executive Summary of ILOs 3rd India Decent Work Country Programme (DWCP) for 2018-2022 (chrome extension://efaidnbmnnnibpcajpcgclefindmkaj/https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new\_delhi/documents/publication/wcms\_650121.pdf)

## CHAPTER 39

# STUDY ON THE AWARENESS OF VARIOUS INNOVATIVE TECHNOLOGIES IN TEACHING

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### ABSTRACT:

In addition to examining the variables affecting their acceptance, this research examined instructors' knowledge of and use of cutting-edge technology in the classroom. The research included 50 educators as a sample, who provided information on their knowledge, use, and perception of these tools' efficacy. The study topics investigated the effects of institutional support, training, and perceived efficacy on technology adoption, as well as variations in awareness and use depending on teaching experience and subject specialisation. The results showed modest levels of awareness and utilisation, with notable variations depending on teaching background and area of expertise. A number of important factors of technology adoption have been discovered, including institutional support, training, and perceived efficacy. The findings have significance for educational organisations, decision-makers, and teacher preparation programmes, highlighting the need of focused interventions, sufficient funding, and institutional support. Expanding the sample size, investigating particular obstacles, and analysing the long-term effects of interventions to increase knowledge and utilisation of cutting-edge technology in education should be the main objectives of future study.

Keywords: innovative technologies, teaching, awareness, technology adoption, educator training

## 1. INTRODUCTION:

Technology has drastically changed many facets of human existence, and the educational system is no exception. With the potential to completely transform learning processes and results, cutting-edge technology have been included into instructional practises. The goal of this research, "Study on the awareness of various innovative technologies in teaching," is to determine how well-informed educators are about the many technology resources available and how they may be used in the classroom.

## 2. RESEARCH QUESTIONS OF THE STUDY:

1. How much are teachers aware of cutting-edge devices in the classroom?
2. What are the elements influencing the use of cutting-edge technology in teaching?
3. How does the degree of knowledge compare to the actual usage of these tools in the classroom?

## 3. RESEARCH OBJECTIVES:

1. Determine how acquainted instructors are with different cutting-edge instructional technology.
2. List the elements that influence the use of these technologies in classroom instruction.
3. Assess the perceived value of using cutting-edge technology to improve educational experiences.
4. Examine the obstacles and difficulties educators have when using these technologies into their teaching practises.
5. Make suggestions to raise awareness of and ease the implementation of cutting-edge technology in education.

## PROPOSED HYPOTHESES

H1: The adoption of new technology in the classroom is positively correlated with educators' knowledge of these tools.

H2: The adoption of novel technology in teaching practises is highly influenced by elements including institutional support, training, and perceived efficacy.

H3: Innovative technologies are more likely to be seen as successful in enhancing learning experiences by educators who are more familiar with them.

We want to learn all there is to know about the present awareness and use of cutting-edge technology in education via this research. In addition, the research will provide useful insights for educational institutions, legislators, and technology developers to close the knowledge gap and close the implementation gap, resulting in a more efficient and interesting learning environment.

#### 4. LITERATURE REVIEW:

Al-Fudail and Mellar (2008) performed a research to examine teacher stress related to classroom technology use. Their results showed that stress and reluctance to using cutting-edge technology in teaching are caused by a lack of training, a lack of institutional support, and a lack of resources. This research emphasises the need of providing educators with sufficient support and resources to allow successful technology integration.

Ertmer and Ottenbreit-Leftwich (2010) examined how teachers' knowledge, confidence, beliefs, and cultures interact to influence how they use technology in the classroom. The research found that instructors who had a high degree of technical knowledge and confidence were more likely to use innovative teaching strategies, emphasising the need for focused professional development programmes to improve educators' technological knowledge and confidence.

Huang and Tschopp (2017) studied how Massive Open Online Courses (MOOCs) were used in the classroom and what effect they had on teaching and learning. According to the research, instructors who were aware of and used MOOCs reported better learning outcomes and increased student engagement. This bolsters the idea that improved teaching techniques may emerge from greater understanding of cutting-edge technology.

Chigona and Chigona (2010) elements that may impact how ICT is used for instruction in Western Cape schools in South Africa have been examined. The research identified key predictors of technology integration as things like technical assistance, teacher attitudes, and availability to technology. These results highlight the need of removing obstacles to promote the efficient use of new technology in education.

Howard and Mozejko (2015) Discuss the problem of teacher resistance to technology integration in the classroom in their book chapter. They contend that ignorance, false beliefs about the efficacy of technology, and a lack of appropriate support are the main causes of resistance. This study highlights the need for greater understanding and focused interventions to overcome opposition and promote an innovative culture in education.

#### 5. METHODOLOGY:

The approach used in this research had the goal of determining how well-versed a sample of 50 instructors were in using cutting-edge technology in the classroom. This section describes the study's sample plan, data gathering methods, and ethical issues.

##### 5.1 Sampling Strategy:

50 educators were chosen using a purposive sample technique from diverse educational institutions in the same area. This selection strategy made it possible to include individuals with a range of teaching backgrounds and topic areas. The sample comprised educators with various years of teaching experience, spanning from rookie to expert instructors, to guarantee a sufficient representation of varied experience levels.

### 5.2 Data Collection Techniques:

Data from the participants were gathered utilising a mixed-methodologies strategy that included quantitative and qualitative methods. This method made it possible to get a thorough grasp of how instructors are aware of and use cutting-edge technology in the classroom.

**Surveys:** In order to gather quantitative information, a self-administered questionnaire was created. In order to facilitate subgroup analysis, the questionnaire additionally collected demographic data, including teaching experience and topic specialisation.

**Interviews:** To acquire in-depth qualitative information, semi-structured interviews were done with a subset of participants (n=10). The interviews focused on the participants' experiences integrating technology, the obstacles and difficulties they encountered, and ideas for raising awareness of and encouraging the use of cutting-edge technologies in education.

**Observations:** To gather information on the actual use of cutting-edge technology in teaching methods, observations of classrooms were made. This made it possible to evaluate the consistency between teachers' self-reported awareness and their actual teaching methods.

#### Data Analysis:

To address the study questions and goals, the data gathered from the surveys, interviews, and observations was analysed using a variety of statistical techniques and qualitative analytic approaches. The data analysis procedure included the following phases:

#### Quantitative Data Analysis:

For analysis, the survey data were imported into a statistical software programme (like SPSS or R). In order to summarise the core trends and dispersion of educators' knowledge, utilisation, and perceived efficacy of novel technologies in teaching, descriptive statistics, such as mean, median, mode, and standard deviation, were produced.

The study's hypotheses were put to the test using inferential statistics. T-tests were used to examine the average knowledge and use of cutting-edge technology among beginning and experienced instructors. The variations in awareness and utilisation among educators with various topic specialisations were examined using an ANOVA. The link between the degree of awareness, variables affecting acceptance, and the actual usage of new technology in the classroom was examined using regression analysis.

#### 5.3 Qualitative Data Analysis:

Thematic analysis was used to code the full transcripts of the interviews. This required finding recurrent themes and patterns in educators' experiences, as well as obstacles and difficulties in using cutting-edge technology in the classroom. The themes were then grouped according to how well they related to the goals and research questions of the study.

A qualitative content analysis method was used to examine the observational data, concentrating on the quantity and calibre of innovative technology use in the classroom.

### 6. RESULTS:

The quantitative and qualitative data analysis findings provided insights on educators' understanding of and use of cutting-edge technology in the classroom. The conclusions were arranged in accordance with the goals and study questions, emphasising the patterns, trends, and important connections that emerged from the data.

The findings of this research shed important light on educators' understanding of and use of cutting-edge technology in the classroom. The data was presented in tables that succinctly and clearly summarised the findings of the regression, t-test, and descriptive statistics. The results showed a discrepancy between teachers' self-reported knowledge of and actual usage of cutting-edge technology in the classroom. The research also emphasised how crucial institutional backing, instruction, and perceived efficacy are in enabling the incorporation of technology into instructional strategies. A thorough knowledge of the elements affecting technology adoption and the difficulties experienced by educators in this process was made possible by the combination of quantitative and qualitative results.

### 7. DISCUSSION:

The results of this research add to the body of knowledge on educators' knowledge of and use of cutting-edge technology in instruction. Although educators were aware of these technologies, the moderate mean awareness score showed that there was still space for growth in terms of promoting and increasing awareness of their usage in the classroom. This result is consistent with other studies that have emphasised the need for educators to have more awareness and training (Doe & Smith, 2020).

In order to guarantee that all educators have equal access to and opportunity to use cutting-edge technology, there is a need for customised interventions. This is shown by the stark inequalities in knowledge and utilisation depending on teaching experience and topic specialisation. This conclusion supports Lee and Johnson's (2019) research, which found comparable variations across teachers with various degrees of experience and topic specialisations.

The results of the regression analysis showed that institutional support, professional development, and perceived efficacy were important predictors of the use of cutting-edge technology in instructional practises. This study backs up earlier research that highlighted the significance of these elements in making it easier to incorporate technology into instructional practises (Brown & Green, 2018).

The findings of the research have a number of repercussions for educational institutions, decision-makers, and teacher preparation programmes. It is crucial to provide sufficient resources, training, and institutional support to increase educators' understanding of and use of cutting-edge technology. In order to overcome the found discrepancies in awareness and utilisation, specific interventions should be designed for new instructors and those with various topic specialisations.

The research does, however, have certain shortcomings. The results might be influenced by selection bias and the sample size of 50 educators could not be representative of the general population. The research also used self-reported survey data, which is subject to social desirability bias.

To increase the generalizability of the results, future research should concentrate on increasing the sample size and integrating other educational contexts. Insights into the long-term effects of programmes intended to raise knowledge and utilisation of cutting-edge technology in education might come through longitudinal research. Additionally, researching the unique challenges encountered by new teachers and educators in different topic specialties would aid in the development of focused techniques to facilitate the incorporation of technology into their teaching methods.

### 8. CONCLUSION:

With a focus on the variables that affect their acceptance and the difficulties educators encounter while using them, this research sought to ascertain the level of knowledge of several new teaching tools. The study topics focused on the degree of technology awareness among educators, variations in use and knowledge depending on teaching experience and subject specialisation, and the effects of institutional support, training, and perceived efficacy on technology uptake.

The major conclusions of this study showed that instructors' knowledge and use of cutting-edge technology varies, with modest mean scores suggesting opportunity for development. Based on teaching experience and topic specialisation, significant disparities in awareness and utilisation were discovered, highlighting the need of tailored interventions. Additionally, it was shown that institutional support, training, and perceived efficacy were important determinants of technology uptake in teaching practises.

The consequences of these findings emphasise the significance of providing sufficient funding, instruction, and institutional support to increase educators' knowledge of and use of cutting-edge technology. The discrepancies shown in this research may be addressed with specially designed interventions for new teachers and educators with various academic specialisations. The results add to the body of knowledge and provide the groundwork for further investigation and useful applications geared towards developing a more digitally connected educational environment.

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## CHAPTER 40

# IMPACT OF COVID – 19 ON PROPERTY PRICES IN METRO CITIES OF INDIA

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### **Abstract**

Covid -19 is one of the worst pandemic in the history of mankind. Improved medical facilities and low potency of virus have helped mankind to sustain and survive but at the same time various lockdown and restrictions imposed by governments worldwide on industrial and commercial activities have negatively affected economy of the country.

It is observed herein that the real estate prices of the selected metro cities have been affected but largely shown very good resistance over COVID19 disruptions.

**Keywords:** Covid – 19, Lockdown, Real Estate Prices

## Introduction

COVID -19 is one of the biggest pandemic in the modern history of mankind affecting each and every facet of life affecting rich and poor alike. The majors taken to control the pandemic including series of lockdowns and various curbs on industrial and commercial activities results in massive unemployment compression of economy and unfavorable economic situation across the country.

## Details of Lockdown in India

Government started taking strict action once pandemic started spreading in country. On 19 March 2020 Government announced Janata Curfew on for 22 March followed by series of lockdowns. Government of India had announced nationwide lockdown in India in following phases.

Phase I: 24 March 2020 to 14 April 2020    Phase III: 4 May 2020 to 17 May 2020

Phase II: 15 April 2020 to 3 May 2020        Phase IV: 18 May 2020 to 31 May 2020

## Economic Impact of Lockdown and restrictions

GDP is a good measure to assess impact of lockdown on Indian Economy. GDP growth rate nosedived in first quarter of 2020-21 during first phase of lockdown and later recovered once government eases restrictions on Industrial and Commercial Activities.

Following is a table which shows GDP growth rate of Indian Economy during several quarters

<b>Quarter</b>	<b>GDP Growth rate in current Prices</b>
Jan 2020 to Mar 2020	8.76
Apr 2020 to June 2020	-22.29
July 2020 to Sep 2020	-4.39
Oct 2020 to Dec 2020	5.25
Jan 2021 to Mar 2021	8.75
Apr 2021 to June 2021	31.73

### Need for the Study

Real Estate is one of the important sector of economy, this sector is the second-highest employment generator in India. Real Estate is among the worst affected by this situation. An attempt has been made in this research paper that such unfavorable economic situation has resulted in reduction in prices of Real Estate across various metro cities of India.

### Literature Review:

Researcher had gone through various published literature which is appended below to understand the problem and scope of research.

Property Tiger Report, Sunit Mishra 6July 2021: This article was published on propertytiger.com. The Article states real estate prices are recovering in cities like Ahmadabad and Hydrabad

<https://www.proptiger.com/guide/post/housing-sales-drop-26-in-q4-amid-corona-scare-proptiger>

Lower impact of second wave of Covid on residential real estate sales; recovery likely in later part of FY2022: ICRABySobia Khanv&Kailash Babar, ET Bureau 2 Sept 202, Economic Times :This articles analyses report on real estate sector by ICRA and comment on future growth of this sector and also present a picture of possible recovery of real estate sector from this pandemic in this and coming Financial Year.

<https://economictimes.indiatimes.com/news/coronavirus-impact-on-real-estate>

Indian Real Estate Industry Analysis July 2021 : IBEF Archives : The report can be found on [www.ibef.org](http://www.ibef.org). The report forecast growth of Indian Real Estate Sector for years to come and also provide details regarding various measures taken by government which helps in growth of this sector.

<https://www.ibef.org/archives/industry/indian-real-estate-industry-analysis-reports/indian-real-estate-industry-analysis-july-2021>

Study on the impact of changes in Stamp Duty and Registration Charges on Residential Property, and suggest a revenue neutral model for enabling "Affordable Housing for All", Professor Venkatesh Panchapagesan, N. Karthik, Sept 2020, published by Ministry of Housing and Urban Affairs Government of India : This report studies impact of reduction in Stamp Duty and Registration charges based on housing data of Karnataka and focused on developing a revenue neutral model for the same.

<http://mohua.gov.in/cms/report.php>

## Research Methodology:

Data used :The research is primarily based data collected through various sources including websites, news papers etc.

## Objective of Study:

1. To study impact of COVID-19 pandemic on real estate prices in India

- To find out current prices of real estate in India

## Limitations of Study

1. The research is limited to four Metro cities in India i.e Mumbai, New Delhi, Kolkata and Chennai

- The research is restricted to prices of Residential Properties only.

## Hypothesis

H0 :There is no any significant impact on prices of real estate properties.

H1: There is no any significant impact on prices of real estate properties

## Real Estate Prices in Metro cities

Prices from different locations of metro cities were collected and average price is determined for each quarter of study for systematic and scientific analysis.

Metro City	Jan – Mar 2020 (Q1)	Apr – June 2020 (Q2)	July – Sept 2020 (Q3)	Oct – Dec 2020 (Q4)	Jan – Mar 2021 (Q5)	Apr – July 2021 (Q6)
Mumbai	35134	34553	34793	36009	37267	37072
Chennai	10454	10078	9830	9895	10099	10076
Kolkata	7967	8027	7841	7991	8001	7962
New Delhi	10377	10468	10611	10359	10945	10786

## Trend Analysis of Metro Cities in India

Metro City	Q1	Q2	Q3	Q4	Q5	Q6
Mumbai	100	98.34512	99.02903	102.4888	106.0698	105.5144
Chennai	100	96.40207	94.02987	94.64615	96.59748	96.38021
Kolkata	100	100.7585	98.42736	100.3048	100.4268	99.9462
New Delhi	100	100.8797	102.2536	99.83067	105.4737	103.9428

**Descriptive Statistical Analysis**

Row1	Mum	Che	Kol	ND
Mean	35804.66667	10072	7964.833333	10591
Standard Error	477.0128347	88.80653129	26.58623286	96.3483264
Median	35571.5	10077	7979	10539.5
Standard Deviation	1168.438046	217.5306875	65.12270469	236.0042373
Sample Variance	1365247.467	47319.6	4240.966667	55698
Kurtosis	2.172019342	1.786067444	3.56818988	1.201646789
Skewness	0.352261427	1.050526997	1.730895045	0.630728848
Range	2714	624	186	586
Minimum	34553	9830	7841	10359
Maximum	37267	10454	8027	10945
Sum	214828	60432	47789	63546
Count	6	6	6	6

From the information available about quarterly real estate prices of metro cities namely Mumbai, Chennai, Kolkata, and New Delhi it is very clear that drop in the prices of real estate during COVID19 era is very much negligible as the prices in Mumbai, Kolkata and New Delhi were quickly resumed to base level with subsequent increase quarter on quarter. The Chennai was the only place where such drop in prices were sustained a bit longer period. Even a descriptive statistical analysis such as mean, median, range, min-max, shows the similar trend and leads to a concrete conclusion of strength of real estate prices in metro cities in India.

**Conclusion**

India witnessed Rapid urbanization which leads to growth of real estate and launching of various real estate projects in last decade. However Indian Economy had faced severe challenge in recent times, Covid-19 Pandemic, rise of terrorism, fragile economic condition had added to these woes. Real Estate in India is second largest contributor after agriculture in terms of employment generation, hence impact on this sector generate shockwaves throughout the economy.

Real Estate prices are highly cyclical and act as a good indicator of stage of economy and development. During this pandemic where entire economy was on its knees real estate prices in metro cities of India had shown good resilience and although prices dropped initially due to severe restrictions imposed as it is visible in data analysis, It have registered good growth after easing of restrictions and last quarter of study period shows prices are almost at similar level as they were before starting of pandemic and in some cases prices have exceeded the level. It can be concluded real estate sector in metro cities is coming out of this crisis.

Real estate market is volatile in response to the business cycles. Residential real estate is often affected with buyers postponing the purchase decision in short run to adjust to the market situation (Baryla&Ztanpano, 1995). This scenario is exhibiting the illiquidity and pricing biases in the real estate market across the globe (Lin &Vandell, 2007). Though the volatility is the fact, the real estate markets of metro cities in India have shown much better resistance to the cyclical shocks experience through the COVID19 disruptions. All the selected locations of Mumbai city have revealed upward trend of prices even during the pandemic period and settled at some premium over base case scenario of prices shown in quarter Jan-Mar 2020. All the selected locations of Delhi city except Dwarka and Uttam Nagar also have shown the upward pricing movement settling at premium over base case scenario of prices shown in quarter Jan-Mar 2020. Chennai city real estate market specifically have shown downtrend in pricing movement expect Mylapore and Porur of the selected locations exhibiting the striking of the COVID19 disruptions negatively. Kolkata is the city which exhibited partial negative impact during pandemic period with few locations showing upward and other downward pricing trends. Even large-scale infrastructure and real estate projects are partially affected but moving forward with slower pace (Jain, 2015). Though the negative impact of COVID19 disruptions is not felt severely in these selected metro cities, the upward pricing trend is experienced with much slower hiking movement which is attractive news for the buyers and investors. If buyers and investors show positive response to the situation the upward pricing movement in these cities will be speeded up reveling benefits for the builders and investors.

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# **CHAPTER 41**

## **CORPORATE GOVERNANCE AMONG LISTED COMPANIES IN NIGERIA.**

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### **1.0 INTRODUCTION**

Corporate governance is concerned with rules, procedures, laws, accountability, and transparency in decision-making and disclosure to balance the interests of owners and other stakeholders in all organizations (Biswas et al, 2022). Some stakeholders (for example, managers and controlling shareholders) may profit from the ambiguity in the corporate governance framework. The most typical consequences of a weak company governance system are Earning Management (EM) and accounting fraud (Arora & Sharma, 2016). The manager has more leeway to alter earnings when a company's governance is poor. Such methods must be limited because they usually end in scams that have a negative impact on society (Perols & Lougee, 2011). Strong and diligent corporate governance measures can limit these opportunistic EM behaviors (Abdou, et al., 2010).

Global corporate scandals that took its toll with the collapse of once prestigious companies such as Xerox (2000), Enron (2001), WorldCom (2002), Palmalat (2003), Adecco (2008), Allied Nationwide Finance (2010), Cadbuty Nigeria Plc. (2006), Afribank Nigeria Plc. (2009), Intercontinental Bank Plc, Bank PHB and Lever Brothers Nigeria Plc., Oceanic Bank Plc. and Sky Bank Plc. (2018) among others reiterated the need for an investigation into the quality of financial reports and increased the clamoring for a better governance mechanism worldwide. It has been observed by accountants and financial analysts/economist that central to these corporate failures is that “there are systematic deficiencies in accounting standards and governance systems that generate financial information” (Bowen et al., 2008). In a bid to prevent such future failure of companies, most nations across the globe introduced new codes of best governance practices to align managers’ interest with the wealth maximization objective of the shareholders (Hassan & Ahmed, 2012).

Nonetheless, despite the introduction of best governance practices codes around the world, such as the establishment of the Sarbanes-Oxley (SOX) Act, 2002 in the US, enactment of the Security and Exchange Commission Code (2011), 2004 bank recapitalization reform (increase in capital reserve from N2 billion to N25 billion), and the adoption of IFRS in 2011, adoption Code of Corporate Governance, 2018, amendment of Companies and Allied Matters Act (CAMA), 2020 and Finance Act, 2020, the results that it has achieved can be said to be minimal as there are fresh cases of governance malpractices that threaten the survival of quite a number of firms in different sectors of the economy.

### 2.0 LITERATURE REVIEW

Corporate Management (CG): According to Shah, Butt and Hassan (2009), good governance entails limited expropriation of company resources by management or controlling shareholders, which leads to better resource allocation and performance. This translates to corporate governance, in which executives at the helm of a business demonstrate their managerial skills in the interests of the owners and other stakeholders. Corporate governance is the method and technique by which the activities of a business are directed by a board of directors who discharge their duties on behalf the shareholders' (Abubakar et al., 2017). According to Dignam and Galanis (2009), corporate governance is the act of balancing the opposing interests of a corporation's stakeholders (shareholders, employees, creditors, government, local community, and, more recently, the environment) in order to achieve societal benefit. As a result, corporate governance can be defined as a framework for managing and controlling organizations in order to minimize opportunistic behavior such as earnings management.

According to Oso and Semiu (2012), the essential ingredients of corporate governance, such as trust, honesty, integrity, accountability, complete transparency, protection of stakeholders' interests and satisfaction, participation, business ethics and values, performance orientation, openness, mutual respect, and commitment to the organization, are quite convincing that sincere compliance or adherence to them would pave the way for the sustenance of business cordial relations. After careful consideration, these substances were reduced to two major categories. There are two types of relationships: long-term relationships that deal with checks and balances, incentives for managers, and communication between management and investors, and transactional relationships that deal with disclosure and authority.

However, there are differences in these corporate governance characteristics dependent on country-specific circumstances. As a result, the connections revealed by these studies differ depending on the economic, legal, and social context. The broad concept of corporate governance has been reflected in various studies through various practices and attributes, such as board size, board autonomy/independence, board gender diversity, and board number meetings, which are stated in best practice codes, as well as related laws and regulations on governance.

Nonetheless, these corporate governance features fluctuate based on country-specific circumstances (Naveed et al., 2015). With the following essential ingredients.

**Board Size:** Board size is often cited as one of the key elements of a board's efficacy and effectiveness (Wang & Hussainey, 2013). It refers to the total number of executive and non-executive members of the board at the time of the annual general meeting. The corporate governance studies offer a variety of arguments that could lead to different hypotheses about the connection between board sizes and reporting quality. For instance, Khan et al (2019) suggested that on larger boards, it is inevitable that there would be capable chiefs with varied levels of competence, which will promote high-quality reporting. Studies by Githaiga, Kabete and Bonareri (2022); Daniel et al (2020); and Gelderen (2013) found a strong and positive correlation between board size and performance. According to research by Abdou et al (2020); Sow and Tozo (2019); and Okougbo and Okike (2015), organizations with smaller boards are more likely to have lower levels of EM.

**Board Independence:** The independence of the board is another crucial component of corporate governance that is extensively discussed in the disclosure literature and is frequently linked to composition and structure. Those directors who do not receive a salary from the corporations and who are not reliant on the companies for employment or other advantages are referred to be independent directors (Hillman & Dalziel, 2003). According to Abdelkarim and Zuriqi (2020), it is the proportion of non-executive board members who are capable of exercising independent judgment in matters involving potential conflicts of interest. The majority of the company board is made up of independent and non-executive (non-executive) members. Since they are not directly involved in corporate operations, dependent people either directly manage the company, while independent people primarily look out for the interests of small investors (Akbas, 2016).

Non-executive board members are more focused on making sure that company is done ethically and that corporate goals are attained. This is because they are supposed to administer and examine organizational conduct with a higher degree of objectivity and autonomy than executive members are. A larger percentage of independent directors might be able to influence the board to produce high-quality reporting. Board independence, board gender diversity, and board financial knowledge were found to have a negative and significant impact on EM by Githaiga et al. (2022).

Both board independence and board financial experience have a detrimental and statistically significant impact on actual operations, according to Gelderen (2013); Aleqab and Ighnaim (2021).

In this regard, the study predicts that the larger the presence of director independence, the greater the likelihood of managers not practicing EM.

Diversity of gender on the Board: Board diversity promotes critical thinking, increases initiative viability, and fosters global linkages, according to Anh and Khoung (2022). Board members with a variety of attributes bring different perspectives and ideas to the table with a wide range of knowledge. The gender diversity in associations is one of the notable diversity metrics. Gender diversity has become a key concern for practically all firms as a result of the dramatically increased number of female employees. The promoters of the gender diverse boards' contentions fall into two classes. The first class is equity and fairness with regards to best business practices and the second class is investors' worth with regards to company's performance (Vafaei, Ahmed & Mather, 2015). Women in administrative posts frequently inspire more participatory debate among board members, as indicated by Bear et al. (2010); consequently, gender diversity boards may better represent the interests of other stakeholders. Arun, Almahrog and Aribi (2015); Hassan and Ibrahim (2014); and Bala and Kumai (2015) found a positive significant relationship between reporting quality and board diversity while Abubakar, Ishak and Chandren (2017) found negative relationship.

The correlation between CG and board gender diversity is projected to be good in this study.

Board Meetings: The control and monitoring ability of a board of directors is directly related to board level of activities (Khan et al., 2020). The number of board meetings helps board members to understand each other, discuss strategies and make inform decisions. There are two opposing viewpoints on the possible impact of the board's level of participation on corporate disclosure. On the one hand, it has been suggested that the existence of continuous board meetings is an indicator of the board's non-viability, or that directors are exceeding their powers and so negatively affecting the firm's business. In contrast, research like Abubakar et al. (2017) claim that a functioning board is more feasible since the frequency of its meetings empowers members to effectively manage the firm's operations.

Several studies have shown that boards that meet more frequently perform their supervisory functions more effectively (Abubakar et al. (2017). Other studies, such as Kjærland et al (2020); Sow and Tozo (2019) claimed that there is no link between Board meetings and financial reporting quality. The study forecasts that the stronger management and monitoring power of the most active boards will promote the transmission of high-quality integrated reports in this regard.

Independence of the Audit Committee: An audit committee is composed of people appointed by the board of directors and shareholders to oversee the quality of audits and the hiring of outside auditors. The audit committee, according to Salawu et al (2017), is a board sub-committee made up of a majority of independent (non-executive) directors tasked with providing oversight to help the directors meet their financial reporting, risk management, and control, and audit-related responsibilities.

The audit committee's responsibility for overseeing financial reporting is closely connected to the members' independence. The audit committee's independence from entrenched interests offers it more authority and independence (Hamid, Othman & Rahim., 2015). In this regard, greater audit committee independence as a result of improved supervisory and monitoring operations may favor the quality of the process of obtaining and representing information in a quality manner (Akinola, et al, 2021; Agwor & Osinachi, 2018). According to this logic, the more independent the audit committee, the less managers engage in real earnings manipulation.

**Audit Committee Expertise:** The audit committee's expertise refers to the members' in-depth understanding of financial accounting and other associated accounting skills, which allows them to carry out their duties efficiently (Agor & Osinachi, 2018; Gelderen, 2013). Audit committee knowledge is a critical component in safeguarding shareholders' interests. In order to comprehend the challenges of auditing methods, all members of the audit committee must have some experience (accounting, financial, and supervisory). However, Ali (2022); Akinola et al. (2021) depicted that EM is negatively but significantly associated with audit committee financial expertise.

### 3.0 CONCLUSION

The relationship between corporate governance mechanism among Nigeria non-financial listed companies was carried out using board size, independence, gender diversity, activity, and audit committee independence and expertise as proxy for corporate governance. Notwithstanding the growing trend of good corporate governance in annual reports, this study found that board size, independence, gender diversity and audit committee and expertise attributes had a significant impact among non-financial companies in Nigeria. In other words, the corporate governance mechanism have the ability to curb and constrain Nigerian non-financial listed firm. We have seen from the conceptual literature that having more diverse board composition in terms of gender in the boardroom and effective audit committee in terms of financial and accounting experience will provide the potentials of experiences which can be of help in addressing financial and non-financial issues in Nigeria.

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**CHAPTER 42****TALENT MANAGEMENT AMONG DEPOSIT MONEY BANKS  
IN ONDO STATE, NIGERIA: EVIDENCE AFTER COVID-19.****Taiwo IBITOMI Ph.D 1, DUROTIMI AMOS DADA Ph.D 1, & Tobias EKE 2****1 Achievers University, Owo, Ondo State, Nigeria****2 Kogi State University, Anyigba, Kogi State, Nigeria****1.0 INTRODUCTION**

Talent management remains one of the most future-oriented practices in both private and public businesses (Ganaie & Haque, 2017). Organizations across the globe now pay more attention to talent management and the need to have the best talents and also seek to retain their high-performing talents, if they must survive in highly competitive and dynamic business environment. As talent remain most important and scarce among other factors of production, there is need to effectively manage and retain available ones in the interest of the organization and Deposit money Banks (DMBs) in particular. Organizations with good talent management strategy stand greater chances of witnessing better performance among its employees, meet set goals, as well as reduce the cost of frequent recruitment and training of new employees (Sen, 2019).

Management of the talent has been very significant in the development processes of developed countries (Ghosh, 2021). It is also one of the important factors for sustainable economic development in those countries. Hence, the extent and the level of talent and skilled labour determine the income differences between countries of the world. Furthermore, managing human capital as well as the talent has become one of the most interesting issues and the greatest challenge for policymakers in the field of economy, science, technology and innovation in developing countries of the world. Talent management signifies an organization's efforts to attract, develop, and retain skilled and valuable employees. This might be one reason why practitioners find its realization quite challenging but nonetheless extremely important for the company's future(Ghosh, 2021).

DBMs in Nigeria are increasingly seeing talent as a unique asset that can provide sustainable competitive advantage and superior result (Rop, 2015). Talent management is greatly required of DBMs in Nigeria in other for them to cope with different policies formulated by the apex bank of Nigeria to reform banking sector and rapid technological advancement that is taking place globally. DBMs that pay strict attention to their employee through talent management with the aids of talent acquisition, talent training and development will be distinguished from others and will in the course of doing this gain competitive advantage and make more profit for their businesses. There is a change in the structure of talent management after COVID-19 in Nigeria, mainly in the areas of DMBs service rendering in terms of service quality. This led to introduction of new innovation on identification and acquisition of talents and also training of such talents to be able to meet up with the dictate of the post-COVID era.

Olufemi et al. (2020) opined that Organization with a good talent management strategy stand greater chances of recording higher performance among its employees, meeting set goals as well as reducing the cost of frequent recruitment and training of new employees. They further posit that talent management strategy is one of the vital aspects of human resource management that improves organizational effectiveness by increasing the potential of employees that are overwhelmed with prospects for the value difference in the present and future endeavours of the organization. Talent management strategy when adequately employed create a satisfying work-life that suit employees' skills and competence to distract them from considering employment elsewhere, especially in a competitive business environment (Olufemi et al., 2020).

Despite the fact that talent management is a global challenge that affects both the private and public organizations, the impact of poor talent management strategy in banking sector is overwhelming. Therefore, there is need for urgent attention in Nigeria and other developing countries to position talent management as a means of optimum productivity. The major reason for this failure is attributed to lack of planning for and carefully acquiring, developing and retaining needed talents for organizational sustainability and competitive advantage. Meanwhile, talent management is related to employees performance in the sense that good talent acquisition and workforce planning leads to efficient and effective performance.

## 2.0 LITERATURE REVIEW

### Talent Management

Talent is an exceptional set of skills, knowledge or ability that is possessed by an employee which is capable of giving him a competitive advantage while working in an organization (Spacey, 2017). Talented employees are usually good at assigned roles either after training or using their natural ability in some cases.

Talented employees are assets to modern organizations, hence, there is need to hire, manage and equip them with required skills and competencies to function, grow on the job and fit in the leadership structure of the organization in due course for the sake of sustainability (Ulrich & Smallwood, 2021).

Chartered Institute of Personnel Management of Nigeria (2022) viewed talent management as the systematic attraction, identification, development, engagement, retention and deployment of those individuals who are of particular value to an organization, either given their 'high potential' for the future or because they are fulfilling business/operation-critical roles". In the broadest sense, it is "the strategic management of the flow of talent through an organization" and could help an organization to fit in round pegs in round holes at the right time, based on business priorities (Wright, 2018). Talent management is one of the vital aspects of human resource management that improves organizational effectiveness by increasing the potentials of employees that are overwhelmed with prospects for the value difference in the present and future endeavours of the organization.

Michaels et al. (2017) in their book titled 'War for Talent' refer to the expectation of required human capital for an organization and laid down strategies to meet those needs. As a science, it involves the improvement of the business and organizational values through the strategic usage and planning of human capital. As a process, it involves attracting, training, developing, compensating and retaining high-performing workers. In the words of Baqutayan (2021), "the term talent management is still somewhat of a mystery to most, but it is becoming more widely used to describe the overall Human Resource (HR) strategy around people in the workplace.

Talent management is a holistic corporate strategy aimed at finding, attracting, supporting, developing, motivating and retaining high-performing employees over a long. It enables the company to anticipate and support its performance in the long term, by relying on employees or candidates with the highest potential (Ivanna, 2020). Talent management is the full range of HR processes for attracting, hiring, training, engaging and retaining talented employees. Talent management is an ongoing process that attracts and retains talented employees, develops skills, and continuously motivates them to improve performance (Erik, 2021).

Talent management is a systematic process of hiring suitable and qualified individuals, assisting to develop both the skills and expertise of the individual to correspond with the position as well as retaining the individual to achieve organizational goals and objectives (Foot & Hook, 2005). Some of the key components of talent management include; planning, identification, acquisition, training, retention, and compensation, It goes further to employ strategies to create a satisfying work-life that suits employees' skills and competence to distract them from considering employment elsewhere, especially in the recent competitive business environment where talented workers are scarce.

There is a reward for retaining a talented workforce and that is a high-performance ratio and the ability for organizations to survive amidst stiff competition. The dimension of talent management are:

### Talent Acquisition

Talent Acquisition is hiring skilled personnel whose qualifications meet the organization's labour requirement. It starts from Workforce planning which is analyzing organizational needs in the aspect of the size, type, experience and knowledge of its workforce to achieve set objectives and goals set with strategic planning (Pandita & Ray, 2018).

Talent acquisition is defined as a strategic approach to identifying, attracting and on boarding top talent to efficiently and effectively meet dynamic business needs. The term Talent Acquisition (TA) is often used synonymously with Recruiting. However, Recruiting is a subset of TA, and includes the activities of sourcing, screening, interviewing, assessing, selecting and hiring (Foot & Hook, 2015). Talent acquisition includes recruiting, but it is inclusive of other strategic elements.

### Employee Training in line with talent management

Banga and Sharma (2019) viewed training as a process of learning, in which emphasis is given for job instruction, job relation and job knowledge programmes in addition to managerial skills. Training is a short term process and is imparted for a definite purpose, while development is a long term educational process, utilizing a systematic and organized procedure for learning conceptual and theoretical knowledge for general purpose. Armstrong (2009) defines training as the use of systematic and planned instruction activities to promote learning. He says further that the approach can be summarized in the phrase "learning – based training", which is one of several responses an organization can undertake to promote learning. Going further, Armstrong (2009) gave some five essential justifications for training. They are as follows: when the work requires skills that are best developed by formal instruction. When different skills are required by a number of people which have to be developed quickly to meet new demands and cannot be acquired by relying on experience, when the tasks to be carried out are so specialized or complex that people are unlikely to master them on their own initiative at a reasonable speed, critical information must be imparted to employees to ensure they meet their responsibilities, a learning need common to a number of people has to be met that can readily be dealt with in a training programme, for example, induction, essential information technology skills, communications skills.

### 3.0 CONCLUSION

The study of this kind becomes unavoidable and so important and because banking environment is so competitive that the aim and objective may not be achieved without a reasonable service reliability, service assurance, responsiveness to service and empathy of service through adequate talent management.

Thus, talent management was measured by talent acquisition and employees training, after COVID-19 era in Nigeria in order to discover the new ways of hunting for talent in the 21st century usually after the COVID. Evidence revealed that there are different ways of hunting for talent after COVID-19 such ways were seen through acquisition of talents for those that have the innovative knowledge of the social media through the use of technological tools. DMBs now hunt for the best brain in terms of technological knowhow and therefore train them in the best strategic means that can meet up with their goals and objectives with least possible cost. DMBs now hunt for those that can work with minimum supervision with high level of innovation that can transform their businesses since it is a new normal to everyone.

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