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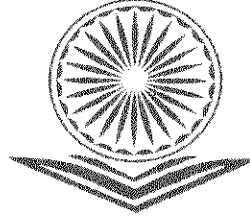
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# 1. Online Ordering of Food

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---

## **Abstract**

Within the food and beverage industry in Malaysia, there is an emerging new wave, the online food delivery (OFD) service. Not just restricted to the take-away and eating out, online food ordering is the new eating out. The emergence of the online food delivery services could be attributed to the changing nature of urban consumers. Despite the importance and the changing consumer behaviour towards OFD services in Malaysia, studies that address the contributing factors towards OFD services among urbanites still remain scant. Hence, the objective of this research is to establish an integrated model that investigate the relationship of several antecedents (perceived ease of use, time saving orientation, convenience motivation and privacy and security) with the behavioural intention towards OFD services among Malaysian urban dwellers. The results revealed positive effect of time saving orientation (TSO), convenience motivation (CM) and privacy and security (PS) towards behavioural intention (BI) of OFD services. The findings provide OFD service providers and scholars with significant insights into what compels urbanites to adopt OFD services.

**Keywords** – Online food delivery, behavioural intention, perceived ease of use, time saving orientation, convenience motivation, privacy and security

## **I. Introduction**

There is a huge food delivery market in Southeast Asia. While the food market is a trillion dollar business, the delivery market is only a small fraction of this market (Kandasivam, 2017). This presented a big opportunity for future growth. It is projected that by the year 2022, the food delivery business will grow to annual revenue of USD 956 million, which is one of the fastest growing sectors in the food market (EC Insider, 2018). Within the food and beverage industry in Malaysia, there is an emerging new wave, the online food delivery (OFD) service. Not just restricted to the take-away and eating out, online food ordering is the new eating out. In Malaysia, there are numerous food delivery companies with many offering online food delivery



services. Among the companies are FoodPanda which is the first delivery company that started aggressively in Malaysia. Others in the market are companies such as Deliver Eat, Uber Eats, Honestbee, Running Man Delivery, Food Time, Dahmakan, Mammam and Shogun2U. Most of these food delivery services are concentrated in the urban cities such as Kuala Lumpur, Kelang Valley, Penang and Johor Bahru. This is understandable because unlike other e-commerce Food delivery services face the challenge of location and coverage boundary, while at the same time maintaining high customer satisfaction with on-demand delivery. Perhaps this is the reason that there are only few strong players in this industry without anyone being entirely dominant. The emergence of the online food delivery services could be attributed to the changing nature of urban consumers. These consumers use food delivery services for a variety of reasons but, unsurprisingly, the most common reason seems to be the need for quick and convenient meals during or after a busy work day. The various food delivery services that are readily available take the hassle away from consumers to think about and plan meals, regardless of whether the consumer is preparing the meal himself, going to the restaurant and dining in or going to the restaurant and buying food to bring back to the office or home. Food delivery services have changed consumer behaviour so much, especially urban consumers that using the OFD services have become normal and routine. More and more people are turning to food delivery in recent years because of the current pace of life as well as the opportunity to discover more restaurants that food delivery offers. For many busy urbanites, OFD services are a convenient option during a busy work day in the city. Many prefer this option of food delivery as this allow them to have fresh and healthy food at their offices or homes while they have the freedom to continue to work. This is also an advantage as city dwellers can use OFD services after a long day at work, preferring to go home and relax instead of spending a few more hours out waiting for food or travelling to and fro just to get something to eat. It can be seen that the OFD services provide convenience and time savings for customers as they can purchase food without stepping out from their home or offices. The OFD services are slowly but surely impacting the food and beverage industry because of its potential to grow the business, ensuring higher employee productivity, delivering order accuracy and building important customers database

## **II. Perceived Ease of Use**

### **Time Saving Orientation[2]**

Time saving orientation is the most critical factor to influence customers' motivation to use the technology-based self-service (Meuter et al., 2003). When an individual find himself lack of time due to daily activities, such as work and leisure activities, this will lead the person to look for instances where they could save time (Bashir et al 2015, Settle & Alreck, 1991). In recent years due to the hectic lifestyle, many people dislike the effort to look for food and waiting for the food at restaurants. They would prefer that food comes to them without much effort and to be delivered as fast as possible (Yeo et al., 2017). Time saving is one of the major contributory factors that influence behavioural intention of people to purchase online (Khalil, 2014). Shopping online is considered time saving because shoppers do not need to physically leave the current place to purchase something. Based on the research from Sultan & Uddin (2011), time saving has a positive effect on behaviour intention toward online shopping. The researchers found that many people perceived that online shopping takes lesser time as it does not require them to waste time to travel out as compared to traditional offline shopping (where they need to be physically present at the store). Alek & Settle (2002) reaffirmed that traditional modes of offline shopping is more time consuming than online shopping as customers do not need to travel out to face traffic jam, search for parking and also to queue in line to do payment. In another study, Alek et al (2009), found that many consumers wish that they could save more time. Consumers tend to want to save time so that they could complete other urgent matters as soon as possible. Research from Ganapathi (2015), and Zendehdel et al (2015) have also shown a significantly positive effect of time saving towards behavioural intention to adopt online shopping.

### **Privacy and Security[3]**

Belanger et al (2002) defined privacy as the probability to access, copy, use, and destroy personal information of oneself. Example of personal information are name, phone number, mailing address, bank account, email address, password and so on. Due to the many highly publicized news on the breach of personal data by well-known companies, consumers are increasingly feeling insecure on how and where their personal information are used during online transaction (Flavian and Guinaliu, 2006). Security according to Kolkata and Winston (1997) is threat which created potential incidents related to security of payments and storing of

information through online transactions. Many customers avoid online purchase due to privacy factors, non-delivery service, credit card fraud, post purchase service and more. Zulkarnain et al. (2015) found that the degree of trust will affect customer's intention to purchase products online. They discovered that privacy and security has become the main concern for online shoppers. To ease people's minds about the issues of privacy and security, many websites have implemented policies to enable customers to verify, audit and certify privacy policies for online transactions (Ranganathan and Ganapathy, 2002).

### **III. Conceptual Analysis for Future Research Propositions[4]**

The article review shows that sufficient studies have been conducted on online food shopping. As more people start shopping online, the number of articles on online food shopping is expected to increase. However, despite studies on online food shopping and business models remain rife, there are key gaps in research. These gaps are a result of the majorities of the researchers' focus on highlighting their perspectives and largely ignore those of the consumers and businesses. Moreover, these studies do not consider crisis (e.g., COVID-19 pandemic) when making these future predictions. The forecasts made about future help in developing a better understanding of the various implications of ordering via mobile apps. Also, it provides a background for examining the emerging technologies in online food ordering. As such, the critical propositions reflected in the literature review propose the following four future research directions.

#### **Value Co-Creation with Stakeholders [3]**

From a business perspective, getting partners and investors on board is not easy and most restaurants tend to stay away from technology. Thus, the preposition made involves conducting research aimed at developing a better understanding of the customer and business' perspectives. According to Chen et al. (2018), setting the commission rates with restaurants is a major problem within the online food industry. Moreover, the majority of startups are depended on restaurants to deliver food at the customer's doorstep (Onyeneho and Hedberg, 2013). Hwang et al. (2020) argue that relying on technology is not the main focus of a restaurant because preparing food is its main core business. As such, even if an investor trusts a food startup, integrating technology within its business process will always be perceived as a high risk. The lack of sufficient evidence on the business' perspective toward technology and online platforms make it more

difficult for rescuers to tailor their studies to generate crucial insights that help in making better business decisions.

One of the problems identified from the consumer's perspective is that most of the things mentioned in the online food menus are often not available. Instead, they act as click baits designed to entice online users to continue interacting with their platform and marketing content (Lara

Navarra et al., 2020). In rare cases, some clickbait links often forward online users to pages that require them to make payments, register, or even fill in their payment details. Consequently, a significant communication gap exists between consumers and restaurants while shopping on phone and online. While numerous studies examine the purchase intention of food among online shoppers, few highlight the inherent challenges experienced by consumers as they go about their day.

While it is crucial to investigate both perspectives, more studies need to be conducted on the customer ones. This is because most online businesses often find it difficult to deal with customers, but Ho et al. (2014) note that this is usually because they do not see things from the buyers' point of view. The authors, however, refutes the popular phrase that "customer is always right" and notes that even when they are completely wrong, they can always win. For example, customers can criticize a business online or even refuse to pay their bills. As such, failing to grasp a customer's perspective can result in a meltdown with them which is always bad business. It is also essential for future businesses

To take into consideration the fact that work is much more enjoyable and profitable when people work alongside the customer rather than against them. Thus, conducting more studies aimed at understanding customers can help develop the necessary recommendations to help businesses see things from their point of view. One of the ways future studies can explore to better understand the customer's perspective involves exploring the issues related to empathy. Charles et al. (2018) note that empathy does not come naturally to most people but it reinforces one's ability to understand and share the feelings of a customer by placing themselves in their shoes. Future studies should highlight how online businesses can ask questions about how their current and potential customers would feel in different circumstances. Also, future studies must examine how well online businesses can listen to their customers. Asher Jahanshahi and Berm (2018) notes that the first step in customer relations involves actively listen to them. Finally, future

studies must be able to provide recommendations on how online food businesses can grow trust and show respect to their customers. The propositions made with regards to the business and customers' perspective provides the background information for future studies. Also, bridging the current research gaps will help business adopt a more effective online model that maximizes customer satisfaction when purchasing foods. Based on the discussions above, this article suggests the following proposition to both identify the gap in the literature and the corresponding future research directions.

#### **IV. Conclusion [5]**

The majority of studies examining online food shopping have provided sufficient evidence highlighting both the implications and benefits of e-commerce. However, most of these studies generalize all forms of online shopping and ignore the fact that shopping foods online is inherently different from buying other commodities. As such, the comprehensive academic review conducted helps at explicating the significant themes within the current literature. Hence, the critical propositions that reflected from these studies help in proposing the following four future research directions. They include conducting studies to highlight the customer and business' perspectives, making future predictions, understanding the implications of ordering via mobile apps, and examining the emerging technologies in online food ordering. The academic review and propositions made are significant to both researchers and online food stores as people across the world start embracing online shopping more than ever before.

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## 2. Increase in a Transaction of Money Transfer through Various Online Payments Mode

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### **Abstract**

Information Technology (IT) has transformed various aspects of our lives; especially provided an easy way to go to get digital payments. During the Monetization period, the Government of India forced people directly or indirectly to perform all commercial activities in Digital mode. Ordinary people started from the traditional payment system into Digital Payment systems that ensured safety, security and ease of use. With the rapid rise of technology in smart phones and easy internet access has led the Indian market to embrace Digital Payments. The percentage of digital payments through alternatives is growing at an alarming rate. The aim of the current study is to identify the different types of digital payment services used by ordinary people in their modern lives.

**Keywords**—Digital, Payments, Demonetization, Digital Revolution

### **Introduction**

Digital payment is a form of payment made in digital ways. In digital payments, payer and paymaster both use digital methods of sending and earn money. Also called electronic payment. No solid currency (currency notes). involved in digital payments. Everything transactions on digital payments are terminated via the Internet. It's quick and easy payment method. Digital payment systems are currently available include Banking cards, Digital wallets, Unified International Research Journal Fund Transfer (NEFT), Aadhar Enabled Payment System (AEPS) and mobile banking. Later technology development, digital payments to influence our daily lives as well begins to offer interesting and profitable new services. [1]. According to the RBI Bulletin cashless transaction in India is growing day by day. Statistics in the report show that in Nov.2016 and Dis. 2016 total made using E- Wallet was 50.74 Billion and 97.70 billion respectively and Jan. In 2017 it increased to 108.69 Billion. According to a study by Cash Karo India, the E-Wallet payment method is superior customer preferences over other payments method

## **Types of Direct Payment**

### **Payment Cards**

The most common types of payment cards are these credit cards and debit cards. Payment cards usually engraved plastic cards, 85.60 × 53.98 mm in size, corresponding to ISO / IEC 7810 ID-1 standard. Often again have a corresponding card number attached ISO / IEC 7812 numerical standard. Most usually, electronic payment card connected to your own account or accounts card holder. These accounts may be a deposit accounts or loan or credit accounts, as well as a card is a way to verify the cardholder. Information required for using payment cards is available Validation Card Card (CVV number) once Payment expiration date. CVV number is a combination of features used in credit as well debit cards for inventory purposes proprietary ownership and risk reduction fraud. Payment cards require 2 items authenticity. Verification is a process what guarantees provided are compared to them those that file in the database of authorized users local operating system information on local operating system.

### **Unstructured Supplementary Service Data (USSD)**

USSD is sometimes called "Quick Codes "or" Feature Codes ", the protocol used by GSM mobile phones to communicate with service provider computers. This service allows mobile banking transactions using the basic feature of a cell phone, no you need to have a mobile internet database using USSD mobile banking. USSD is often associated with real time or instantaneous messaging services. USSD is sometimes used in conjunction with SMS. User submits request network via USSD, and network he responds by acknowledging that receipt: "Thank you, your message appears worked. A message will be sent to you phone. "Required information in USSD by MPIN / IFSC / Aadhar account / Account number.

Unified Payments Interface (UPI) Unified Payment Interface (UPI) is a new payment interface introduced by National Payments Corporation of India (NPCI).[2] under the supervision of Government of India to promote a cashless-society and mobile banking. Unified Payments Interface (UPI).[3] is a system that powers multiple bank accounts to use several banking services like fund transfer, and merchant payments in a single mobile application. Sending and receiving money through UPI payment app is like sending and receiving a text message on your Smartphone. A user need not have multiple banking app installed in his/her Smartphone. A user can simply add all the bank accounts in a single UPI payment app without the hassle of remembering or even typing banking user ID/Passwords. Each Bank provides its own UPI App for Android, Windows and iOS mobile platform(s)[4].

**Internet Banking**

Internet banking, also known as online banking, e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. Online banking was first introduced in the early 1980s in New York, United States. Four major banks — Citibank, Chase Bank, Chemical Bank and Manufacturers Hanover — offered home banking services. Chemical introduced its Pronto services for individuals and small businesses in 1983, which enabled individual and small-business clients to maintain electronic checkbook registers, see account balances, and transfer funds between checking and savings accounts. ICICI Bank was the first Indian bank to provide internet banking facility. Information required for Internet banking are Account number and Indian Financial System Code (IFSC code).

**Conclusion**

In the future digital payments will be a should also be the case with changes in habits people accept digital payment too should. Cashless exchanges are not only safe there is money work but less time eating. It also helps to record all what is done is done. India has more than 100 million active mobile communication with more than 22 many smart phone users since March 2016. This the number will grow steadily faster internet speed. Mobile network access, Internet and electricity are also growing Digital payments in remote areas. Therefore, there is no doubt that the future trading system has no money transaction.

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### 3. Study Paper on Fitness and Health Apps Using Internet of Things

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**Meenakshi Patil**

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---

#### **Abstract**

As of late the advancement of new advances has created an expansion in the quantity of concentrates on that attempt to assess purchaser conduct towards the utilization of sports applications. The point of this study is to play out a deliberate audit of the writing on the expectation to utilize portable applications (Applications) identified with wellness and actual work by shoppers. This orderly audit is a basic assessment of the proof from quantitative investigations in the field of evaluation of buyer conduct towards sport applications. A sum of 13 examinations are dissected that propose models for assessing the expectations to utilize wellness applications by sport shoppers. The outcomes uncovered a few key ends: (a) Innovation Acknowledgment Model is the most broadly utilized model; (b) the connection between seen utility and future expectations is the most investigated; and (c) the most assessed applications are diet/wellness. These discoveries could help innovation chiefs to know the main key components to consider in the advancement of future applications in sport associations.

**Keyword:-** : physical activity; sport application; marketing consumption; technology acceptance model; smartphone app

#### **1. Introduction**

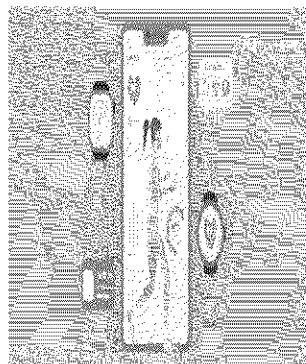
A Wellbeing and Wellness application is an application that can be downloaded on any cell phone and utilized anyplace to get fit.

1 They can be utilized as a stage to advance solid conduct change with customized exercises, wellness guidance and nourishment plans. Wellness applications can work with wearable gadgets to interface their wellbeing information to outsider gadgets for simpler availability. By utilizing components and making contest among loved ones, wellness applications can assist clients with being more roused. Running and exercise applications permit

clients to run or work out to music as DJ blends that can be suggested dependent on the client's means each moment, pulse improving execution during exercise.

The Covid sickness (Coronavirus) brought about by serious intense respiratory condition Covid 2 (SARS-CoV-2) has gotten worldwide consideration. The number of affirmed cases across the world keeps on rising. The World Wellbeing Association declared Coronavirus as a pandemic on Walk 11, 2020 [1]. The general population has become more anxious to acquire data about the spread of the contamination. Their endeavors in staying up with the latest with the most recent data about Coronavirus could include existing innovations like watching the public notice on the TV or paying attention to the news on the radio. Notwithstanding, many individuals dislike sitting tight for a live transmission at a decent timetable. Perusing computerized news stories and looking through solid authority sites might be the principle choice for technically knowledgeable people.

This is an amazing chance for web or versatile clinical application designers to make a major stage for people in general to give them the data they are searching for. With the progressing of versatile programming and innovation, portable applications have turned into a significant component in our regular routine.



**FIG:1:-FITNESS AND HEALTH APPS**

The utilization of portable innovation and gadgets has been viewed as fruitful in the medical services setting. The term (mHealth) implies portable wellbeing has been utilized to portray any medical services practice which is upheld by cell phones. For example, a mHealth application might assist wellbeing with caring experts in treating clinical illnesses and teaching patients on self-observing of the sickness just as supporting therapy adherence. The utilization of mHealth applications has made medical services and wellbeing data effectively open.

2. The execution of key highlights in mHealth that can help in finding or manifestation revealing has incredible potential in the administration of contaminations. Also, the mix of applicable epidemiological information and topographical data of communicable sickness commonness in a district will permit the following of cases, which can be utilized as a helpful device to control the spread of contamination . To convey wellbeing related data through applications, as data can be traded quickly and refreshed effectively. Versatile applications might conceivably forestall the event of a specific sickness, as traded messages through a portable application can advance correspondence, stockpiling of data, and message conveyance that drives clients to make sound way of life changes .

As of late the US Food and Medication Organization gave direction and strategy for mHealth applications to guarantee their wellbeing and viability . In the interim, different difficulties spin around data sharing and straightforwardness of administrations offered that could think twice about protection of the application's client . mHealth application use is additionally a central issue among medical care experts on account of the conceivable dispersal of falsehood that could hurt the clients or perusers, as some data and administrations gave are not adjusted clinical rules.

This review means to break down and assess the substance just as elements of Coronavirus versatile applications. The discoveries are instrumental in assisting wellbeing with caring experts to recognize appropriate versatile applications for Coronavirus self-checking and instruction. The aftereffects of the portable applications appraisal might possibly help versatile application engineers improve or alter their current versatile application plans to accomplish ideal results.

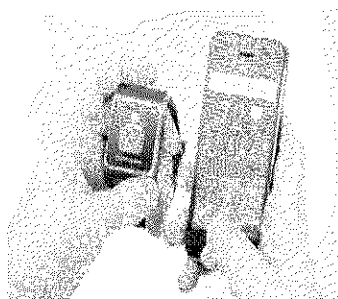
## **I. Methods**

We played out a substance examination, correlation, and usefulness evaluation of chose portable applications for Coronavirus. Initial, a quest for Coronavirus portable applications was acted in two advanced stages: the Application Store on the Apple iPhone 8 Or more and the Google Play Store on Oppo R9s and Vivo V9 cell phones. The pursuit was led from April 18, 2020, to May 5, 2020. The district of the Application Store where we played out the hunt was the US, while a virtual private organization (VPN) application named Contact VPN was utilized to find and access Coronavirus versatile applications from all nations on the Google Play Store. The consideration models to get significant mHealth applications included applications dispatched for cell phone clients and applications that are identified with Coronavirus with no limitation in

language type. The prohibition models incorporate versatile applications that are dispatched on different gadgets like iPads, tablets, and workstations; applications intended to give isolated clients their staple or drug store supplies because of containing the infection; and business venture applications intended to gather assets on the side of associations impacted by Coronavirus.

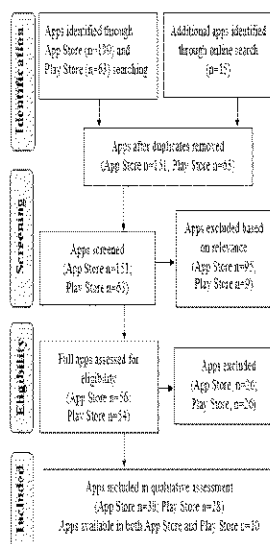
3. The catchphrases "Covid19," "Covid," "Crown," and "Coronavirus" were utilized to find Coronavirus versatile applications in the Application Store and the Play Store. To guarantee that all significant portable applications were incorporated, a web-based inquiry on Google utilizing the key terms "versatile application," "mHealth," "Covid19," "Covid," "Crown," and "Coronavirus" was additionally directed. All portable applications were then sifted by the Coronavirus significance and were additionally separated by the consideration and prohibition standards. The creators are predominantly capable in the English language, so just applications that help an English language UI were evaluated and inspected. The rundowns of the cycles associated with choosing the important portable applications from the Application Store and Play Store are represented in Figure 1.

The included portable applications were evaluated dependent on their essential elements and functionalities. The essential elements were altered from the framework of created grouping of mHealth applications assessment models proposed by Nouri et al and in the writing . The included seven essential elements were no web necessity, size of application under 50 MB, no membership required (ie, free instructive substance (Coronavirus educating), send out information (sharing of client's information with different stages), ( computerized information passage (programmed update of information without client impedance), and warning capacity. When the evaluation of essential highlights was finished, the specialists assembled again to sort the applications into various gatherings as indicated by their motivation and usefulness, by perusing the outline and clarification given by the designers of each included application. The sorted five functionalities of portable applications were information (data on Coronavirus), ( following or planning of Coronavirus cases, home observing observation, online interview with a wellbeing authority, and official versatile applications run by a wellbeing authority.



**FIG:2:- FITNESS AND HEALTH APPS**

The essential highlights of all included versatile applications were screened independently by three scientists. Any conflict was examined until agreement was accomplished. The full substance of the included portable applications were then separately inspected by similar specialists. Any equivocalness was settled by two senior specialists to affirm the usefulness order of all included portable applications. One point was allotted to things that were completely fulfilled. No point was given for every thing that was mostly fulfilled or didn't have any significant bearing. There was a limit of 7 and 5 focuses for the essential elements and functionalities, individually. Clear measurements (frequencies) were utilized to depict the qualities of the applications as indicated by the essential elements and functionalities



**FIG:3:- STTISTICS OF HEALTH APPS**

The essential highlights of all included portable applications were screened independently by three analysts. Any conflict was examined until agreement was accomplished. The full substance of the included versatile applications were then exclusively inspected by similar

scientists. Any uncertainty was settled by two senior analysts to affirm the usefulness order of all included versatile applications. One point was appointed to things that were completely fulfilled. No point was given for every thing that was part of the way fulfilled or didn't make a difference. There was a limit of 7 and 5 focuses for the fundamental highlights and functionalities, separately. Engaging measurements (frequencies) were utilized to portray the qualities of the applications as per the fundamental elements and functionalities

## **II. Physical Activity and Health**

Normal active work and exercise are useful for working on physical and psychological wellness. It is in this way critical to advance being genuinely dynamic during times of lockdown. The American School of Sports Medication (ACSM) rules suggest 150–300 min each seven day stretch of moderate-power vigorous actual work, for example, working out with rope, video-based high-impact works out, energetic strolling around the house, and 2 meetings each seven day stretch of muscle strength preparing, (for example strength exercises utilizing portable applications, squats, jumps, push-ups, and so on) [4]. Actual work and restoration have been displayed to have explicit advantages, for example, worked on physical, mental, and emotional well-being . Medical care intercessions to advance actual work, conveyed by wearable mon itors, are powerful in advancing actual work . In this way, the execution of organized versatile application based projects during times of lockdown may diminish the adverse effect of latency on the soundness of people, including more seasoned individuals, who have a high danger of contamination. We report here a scope of wellbeing related versatile applications and suggestions for explicit locally established actual work for use as corresponding treatment in times of lockdown.

During times of lockdown, people need to follow social removing or self-disengagement conventions to forestall the spread of Coronavirus. Different versatile based, or tablet-based, wellbeing applications, or games, can be utilized to advance active work during these periods. Actual work (Dad) and energy use (EE) have been displayed to diminish fundamentally during times of lockdown [PA 4,135.7 metabolic same (MET)- min/week, EE 4,221.7 kcal/week] contrasted and before lockdown [PA 7,809.7 MET-min/week, EE 8,189.8 kcal/week] (7). The point of expanding active work and exercise is to keep up with or work on actual wellness, straightforwardly and



**FIG:4:-FITNESS APPS**

5. During times of lockdown, people need to follow social separating or self-confinement conventions to forestall the spread of Coronavirus. Different versatile based, or tablet-based, wellbeing applications, or games, can be utilized to advance actual work during these periods. Active work (Dad) and energy consumption (EE) have been displayed to diminish altogether during times of lockdown [PA 4,135.7 metabolic same (MET)- min/week, EE 4,221.7 kcal/week] contrasted and before lockdown [PA 7,809.7 MET-min/week, EE 8,189.8 kcal/week] The point of expanding active work and exercise is to keep up with or work on actual wellness, straightforwardly and by implication working on safe, stomach related and renal capacities. For instance, practice expands counter acting agent and white platelet levels, to battle contaminations. During and later the activities, an expansion in internal heat level might help the body battle contamination. Contaminations are bound to be connected with horrible eating routine, upset rest examples, stress, and travel and openness. Actual work and exercise is subsequently fundamental for people in all age bunches during times of lockdown, to keep up with wellbeing and secure the body against Coronavirus.

### **III. Virtual Reality-Based Active Work**

The utilization of computer generated reality (VR) in dynamic computer games and exergaming can be utilized as a reciprocal device in restoration. VR games advance people's engine learning, neural versatility, and can be utilized as a supplement to regular activities. VR-based games could streamline engine working by joining physical and intellectual preparing in a charming and persuading way (8, 9). Our physiotherapy offices suggest the utilization of different exergaming applications: Wii Offset load up with WiiFit, Nintendo Wii preparing,

Equilibrium restoration unit, PC unit and Step cushion, a Dance computer game with cushion, Omni treadmill, and I minds Ace pilot test program. These games rouse people in performing locally situated warm-up, obstruction preparing, balance preparing, and running. One review suggests performing 25–60 min of activity, 2–3 times each day, 1–5 times each week, to advance active work.

#### **IV. Mobile-Based Applications to Advance Actual Work at Home**

Portable based applications are a promising apparatus to expand adherence to active work at home, empowering people to draw in with wellbeing data and direction whenever. Data and correspondence innovations are ordinarily utilized in the field of instructive procedures and actual wellbeing. Innovation based intercessions to advance actual work offer an option in contrast to customary consideration (10). Innovations empower people to screen, assess, and educate the presentation of their active work (11). Different mobilebased applications are accessible to download from the web. Versatile based wellbeing applications for recovery of neurological conditions, like Parkinson's infection, have been demonstrated to be helpful during the Coronavirus pandemic records a portion of the portable based applications that we prescribe to advance active work at home during lockdown. Versatile based active work gives the chance to individuals to rehearse practices and work on their wellness, while remaining at home to control spread of the infection. The utilization of portable based applications might assist with advancing mental and actual wellbeing during times of lockdown, when individuals can't perform ordinary outside active work.

#### **V. Conclusion**

- i. The physical activity programme using fitness app has shown a positive effect on the cardiovascular endurance of the sedentary peoples.
- ii. The fitness of the subjects has improved physical activity programme using fitness app.
- iii. The physical activity programme using fitness app has shown a positive effect on beep test levels, distance, time, VO2Max, speed, score, calories and rating of the subjects.

It is therefore concluded that physical activity programme using fitness app is effective and improves fitness, day to habits of sedentary peoples.



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## 4. Covid- 19 and Applications of Smartphone Technology

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### Abstract

With restrictions on face to face clinical consultations at intervals the COVID-19 pandemic then the challenges faced by health care systems in delivering patient care, varied knowledge technologies like telemedicine and smartphone are enjoying a key role. We assess the role associated applications of smartphone technology as an extension of telemedicine to offer continuity of care to our patients and investigation throughout this COVID-19 pandemic. We've done a comprehensive review of the literature using acceptable keywords on the search engines of PubMed, SCOPUS, Google Scholar and Analysis Gate at intervals the initial week of would possibly 2020. Through the discovered literature on this subject, we have a bent to tend to dialogue role, common applications and its support in extended role of telemedicine technology in several aspects of current COVID-19 pandemic. Smartphone technology on its own and as extension of telemedicine has necessary applications at intervals this COVID-19 pandemic. As a result of the smartphone technology any evolves with fifth generation cellular network growth, it's progressing to play a key role in means forward for health medication, patient referral, consultation, technology and far of various extended applications of health care.

**Keywords:** COVID-19, Coronavirus, Pandemic, TelemCOVID-19, Coronavirus, Pandemic, Telemedicine, Smartphone, malady martphone, malady outbreaks.

### 1. Introduction

The COVID-19 malady causes Associate in Nursing honest vary of unwellness from the unwellness|disease} to a superb deal of severe malady at the facet of respiratory illness and mode of transmission is predominantly by drop unfold [1], [2], [3]. to chop back the danger of person to person transmission of the coronavirus throughout COVID-19 pandemic, varied national governments have introduced intensive 'lockdown' measures such 'social distancing' and 'shielding' of risk folks [2]. internment measures limits movement of people in communities whereas allowing essential services to continue throughout an endeavor to curb the unfold of

coronavirus irruption. Consequently the impact of COVID-19 has had an important impact of life vogue at the side of health care and disruption of economic, social and supply chain sectors [3]. The Indian government initiated 'Lockdown' on Christian holy day, 2020 and has extended doubly until seventeenth may 2020, with widespread consequences [4]. presently the employment of smartphone mobile is enlarged as people want update data regarding COVID pandemic. we've Associate in Nursing inclination to explore the challenges two-faced throughout this COVID-19 pandemic and assess the extended role of Smartphone technology (SMT) in supporting Telemedicine (TM) in its varied applications.

**1.1. Smartphone technology (SMT)** A smartphone may even be a newer category of wireless phone with associate integrated engineering associated totally different selections like Associate in Nursing coding system, web browsing, and together the ability to run code applications. they're remarked as 'Smart' as a results of they're going to provide data once you would like them at the small little bit of your fingers and this can be used in a {very} very helpful approach. presently smartphones ar equipped with selections like camera, video, international Positioning Service (GPS) navigation, and games, deed and receiving piece of email (email), web search applications for numerous functions.

SMT has influenced areas like business, health, social life, education, and banking and additional lots of.

Mobile health 'mHealth' refers to the use of phone technology to deliver health care. the arrival of SMT has accumulated the potential impact of mHealth intensely and has positive implications for patients' health and together the patient-clinician relationship [5].

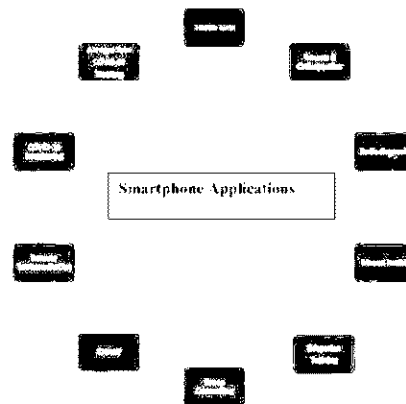
**1.2. however is it totally different from phone, video technology-** comparison of smartphone technology (SMT) vs. tale/video? TM tools exist already among the market with phone Associate in Nursingd video consultations having AN increasing role in health care drugs [6]. Knowledge and communication technologies facilitate in identification, interference and recommendation for management of acute organ injuries and chronic natural science conditions. variety sixty 9 has found increased role among this COVID-19 in observance diabetic conditions and health of patients 'self-isolating' reception . smart phone technology is Associate in Nursing extended application of variety sixty 9 with the advantage of quality, with selections like camera, recording, GPS navigation, deed and receiving email, net search at tips of fingers .

**1.3. Communication Modes with SMT** Video platforms: e.g. Zoom, Skype, Facetime (iPhone). Audio platforms: e.g. phonephone calls, advice etc. Text platforms: e.g. Messaging, chat mode.

**1.4. Fifth Generation (5G) smartphone Technology Revolution** 5G smartphone devices are often a breakthrough in rising each patient care and caregiver ability, in addition as decreasing resource consumption, that presumably could scale back aid prices.

5G has really high speed, mobility, energy potency and low latency, density than 4G [3]. the data provided 5G for a virtual clinic unit aiming to be with regards to nearly nearly as good as, or better, than the face-to-face clinic this might build virtual” clinics, Interdisciplinary consultation, remote observation of patients a reality. With high speed information transfer capabilities, Brobdingnagian medical information files of images eg resonance imaging and PET scan may be transported rapidly and faithfully. Remotely controlled surgery (Telesurgery) unit aiming to be a step nearer to pattern high speed technology as a results of a lot of improved image quality and real time video communication [4]. The 5G SMT phone have ultrahigh definition and 3D video facility that helps surgeons for operative management. it will prove a humanized medical atmosphere with AI for patients among the unit. though it's helpful however one got to be compelled to additionally bear in mind its adverse general effects associated with its use in addition [5]. 5G SMT phone with AI selections will contribute to the fight against COVID-19 by i) early warnings and alerts, ii) trailing and prediction, iii) information dashboards, iv) designation of COVID-19 patients verify best treatment got wind and predict post-operative complications to vary early interventions once necessary, v) prognosis, treatments, and cures, and vi) act [6].

**1.5. 5G SMT phone with applied science choices could play a big role at intervals the immunizing agent development for COVID-19.** wise applications of SMT throughout



COVID-19

**1.5.1. Identification and Radiology** The proliferation of smartphones has driven tele-health's emergence as a tool to diagnose conditions. WhatsApp has been used as Associate in Nursing connected tool in mHealth in medical imaging. Naqvi GA et al. performed a cross sectional study of evaluating accuracy of designation of fracture radiographs sent on mobile phones through transmission transmission (MMS) compared to radiology report. They found accuracy of ninety seven.7% with 100 computer sensitivity and ninety four.4% specificity. what is extra KApicioglu M et al. [8] evaluated the responsibility of WhatsApp application in assessing the X ray footage of kids between a pair of and ten years older with supracondylar fracture of bone compared with the image Archiving and Communication system (PACS). They found that WhatsApp is Associate in Nursing economical and correct in managing these injuries in emergency setup.

**1.5.2. care and drugs** It has been powerful for several patients to understand hospitals in imprisonment amount. to assist these patients, several hospitals have started telemedicine patient services. SMT permits remote consultation, recommendation and support. SMT therefore helps in assessment, triage, identification and coming up with plenty of management

**1.5.3. Trauma and medical science surgery applications** Virtual Fracture Clinics (VFC) unit newer that} at intervals which of assessing and managing contractor injuries . SMT might even be accustomed undertake VFC and along monitor chronic orthopedic conditions like chronic joint sickness in COVID-19 pandemic amount once patients unit unable to travel thanks to internment restrictions and injury .

**1.5.4. Tertiary referral** Studies have shown that smartphone use has helped in avoiding uncalled-for visits to the tertiary hospital and conjointly slashed the incidence of unfathomable identification of fractures in patients usually observe .

**1.5.5. counseling** With the results of 'self-isolation' and 'shielding' on condition, low mood and depression has been acknowledged as a problem throughout the COVID-19 pandemic. SMT will facilitate in condition recommendation and steering to reassure patients so offer support .

**1.5.6. Education and coaching** COVID-19 has had a massive impact in on education and coaching. As most regular conferences, seminars, workshops and totally different tutorial activities area unit off the amount of on-line seminars referred to as 'webinars' has exaggerated enormously and simply accessible with SMT. instructional institutes area unit closed down and

lecturers square measure taking lectures on-line. Students ar accessing these lectures on-line through the help of smartphones .

### **1.6. SMT Extended Applications Throughout COVID-19 Pandemic**

**1.6.1. cluster message** A group of people square measure usually counselled concerning health recommendation, exercise programme exploitation ZOOM, Skype or Facetime technological applications to stay up tips of social distancing but providing continuity of care .

**1.6.2. Covid-19 monitoring** To combat COVID-19, it's important to know the proper location of the people infected with it. correct locations square measure usually detected victimization GPS and to boot proximity between infected users square measure usually detected via Bluetooth feature on smartphones. mobile data can provide access to population estimates and completely different quality information, which can any be used by all completely different sectors to grasp COVID-19 trends and act proactively [23].

### **1.7. COVID-19 India and smartphone technology**

SMT has give Brobdingnagian likelihood for Indian health care arch and caregivers throughout COVID- nineteen. Aarogya Setu (lit. 'Health Bridge') can be a COVID-19 chase mobile application developed by the National information science Centre that comes to a lower place the Ministry of natural science and knowledge Technology, Government of land [24]. this may be a chase app that uses smartphone's GPS and Bluetooth choices to trace the coronavirus infection. Aarogya Setu app is accessible for mechanical man and iOS mobile operational systems. pattern Bluetooth technology, the Aarogya Setu app tries to envision the danger if one has been on the brink of a Covid-19 infected person (within six feet of distance) by scanning through a information of notable cases across land, and pattern location knowledge it determines true one is in belongs to the infected areas supported the data accessible.

### **1.7. Side effects of SMT**

An overuse and misuse of SMT may cause users to some facet effects, rather like repetitive stress injuries in computer professionals. Undue and prolonged stress because of overuse of SMT may cause pain inside the neck, elbow, articulation synovialis and hand (Table one ) [25,26].

Table 1  
Commonly associated conditions with repeated overuse of smart phones.

Site	Pathology/Mechanism	Conclusion
Cervical spine	Forward Posture/Neck strain	Neck pain (Text Neck)
Shoulder	Forward Posture	Shoulder pain
Wrist	Flexion/Extension	Flexor/Extensor tendinitis
Wrist/Shoulder/Forearm	Extension	Pharyngitis
Elbow	Overuse	Capitulum syndrome (Cubital tunnel)
Wrist	Overuse	DeQuervain's Tenosynovitis/Tennis elbow/ Carpal tunnel syndrome/ Trigger finger
Wrist/Forearm	Overuse	Fracture scaphoid
Wrist/Forearm	Overuse	Carpal Tunnel Syndrome
Thumb	Overuse	Extensor Pollicis Longus tendinitis/Trigger finger/ Carpal tunnel
Hand/Thumb	Overuse	Myofascial Pain Syndrome of Abductor pollicis, first extensor/ Extensor Digitorum Communis muscle
Hand/Thumb	Overuse	Wristitis (Carpal tunnel)
Cervical spine	Forward Posture/Neck strain	Text Neck

Putting neck Associate in Nursing higher limb in associate uncomfortable positions for a drawn-out quantity of it slow, can end in strains and overuse injuries, this causes pain in neck, upper back, shoulder, and better limbs likewise as symptom and tingling in hands and fingers.

**1.8. Text neck** is that the term accustomed describe the neck pain thanks to inappropriate neck posture or sustained flexion of cervical spine for trying down at SP Cell phone elbow/prolonged-phone-posture (PPP) occur because of bending or flexed posture the elbow for long periods of some time whereas victimization the phone for audio call. These positions can a lot of and a lot of irritate the nerve .

Texting inflammation it's triggered by a Stenosing inflammation of the animal tissue sheath of abductor pollicis longus and musculus pollicis brevis at intervals the first dorsal compartment of the carpus. Texting, transmission and diversion would like repetitive redundant movements of the thumb that irritates the animal tissue. Pain over the surface of the radial side of the carpus and weakness and dysesthesias, like symptom, tingling, burning, and cramping over the lowest of the thumb/wrist because of frequent text transmission . Commonly associated conditions with perennial and overuse of fine phones embrace

**1.10. Sensible observe** steering recommendations for applicable use of good phone.It is very important to observe some sensible practices whereas practice smartphones to avoid medical problems.

**Table 2**  
Good practice guidance recommendations for appropriate use of Smart phone.

Good Practice	Avoid
Do support the forearms	Avoid slung with the head bent forward
Do use both hands	Avoid texting with high speed
Do use smartphone while sitting (and not walking)	Avoid E-boat flexion
Do keep stretching hands while using mobile phone	Do not use smartphone whilst driving
Do keep your wrists straight while using smartphones	Avoid marathon browsing or messaging session
Do try to hold your phone in both the hands	Avoid use smart phone for more than 15-20 min at a time

1.11. Limitations of SMT It is important to understand that many mobile applications and devices presently lack the positive parameters that unit required to make them reliable and viable tools. like each various digital health innovation, Mobile health technology is not any exception. It together faces privacy and knowledge possession issues [3]. The challenges it poses would possibly in itself be motivation for a lot of developments and innovations.

### **Conclusion**

Smartphones area unit extensively used worldwide for the previous few decades, but have recently found varied medical applications throughout COVID-19 pandemic. These phones facilitate in avoiding the face-to-face contact of the care provider with the patients and then maintain social distancing and avoid virus transmission. These phones unit of measurement valuable in making the clinical analysis, diagnosis, timely recommendation, prescription and to boot at intervals the observance of the patients from their home and in remote areas. If the smartphones unit of measurement used properly and with care, repetitive stress injuries to the system is avoided.

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## 5. Importance of AI in Teaching

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### **Abstract**

In the present existence, the use of information, communication technologies (ICT) have acquired prominence not only in the field of education, but in other fields as well. The main objective of this research paper is to acquire the understanding in terms of significance of ICT in education. In all levels of education, ICT is made use of to enrich the system of education. When the individuals are making use of ICT, they are able to carry out their job duties in a manageable manner. Furthermore, its utilization have rendered a significant contribution in leading to progression in the implementation of tasks and functions. Before, the individuals make use of ICT, it is vital for them to possess adequate knowledge and information. One needs to be well-equipped with ICT, before, making use of it. The main areas that have been taken into account in this research paper include, policy of ICT in education, benefits of ICT in education, and role of ICT in bringing about changes in learning.

**Keywords:-** Education, Environment, Information and Communication Technologies, Knowledge, Learning

### **Introduction**

When one is conducting research and acquiring an understanding of the significance of ICT in education, it is necessary to understand its accurate meaning. ICT stands for information and communications technologies. These are the diverse set of technological tools and resources that are used to communicate, create, disseminate, store and manage information. Through expansion of ICT, the business environment gets permeated and the governments are provided with efficient infrastructure. Another aspect that highlights the significance of ICT is, it adds value to the learning processes and organization and administration of educational institutions. The internet is regarded as the powerful force that has rendered a significant contribution in promoting development and innovative practices.

**Benefits of ICT in Education**

The benefits of ICT in education have been identified in terms of aspects, which have been stated as follows:

**Teaching-Learning Processes**

The use of ICT has been used to a major extent by teachers at all levels of education in making provision of knowledge and information to the students. In nursery schools, the teachers make use of computers and internet to enhance information among students regarding various concepts. They show how to draw shapes, colour and paint concepts on the computers to the students. Internet is made use of to watch cartoons or movies, observing pictures, images and so forth. In secondary and senior secondary schools, students usually begin to learn the basics of computers. At the initial stage, they may feel vulnerable, but with thorough practice are able to enhance their technical skills. After they have learned the concepts, participation in regular practice would help them in honing their technical skills. The teachers encourage students to make use of internet to augment their understanding in terms of various concepts. The students take pleasure in making use of technology and prepare assignments, reports, projects and other documents.

**Learning Environment**

The extensive use of ICT has rendered a significant contribution in improving the learning environmental conditions. Research has indicated that before the advent of technology, when students used to make use of pens and pencils to prepare their assignments, then they experienced problems in making corrections. In some cases, the work turned out to be untidy, as a result of scribbling. This made the teachers feel disappointed and as a consequence, students experienced academic set-backs. Hence, it can be stated that with the use of ICT, students are making use of computers and preparing their assignments in a well-organized manner. With the advent of technology, there has been an increase in rational and logical thinking among students and teachers. The teachers are able to put into practice the evaluation methods in an appropriate manner and assess the academic performance of students. With extensive use of technologies, the individuals are able to achieve their academic goals.

**Role of ICT in bringing about Changes in Learning**

The role of ICT in bringing about changes in learning have been identified in terms of the aspects, which have been stated as follows:

**1. Management Education** – In management education, the main factors that have been taken into account are, improvements in learning achievement; putting emphasis upon adult illiteracy and eliminating female illiteracy; expansion upon the provisions of basic education and skills development programs among the individuals and increase in the acquisition of education by the individuals and their families, primarily in terms of knowledge, skills and abilities, which are required for the sustenance of the living conditions. In order to pay adequate attention on these factors, it is vital for the individuals to augment their knowledge and understanding in terms of ICT. The role of ICT has been comprehensively recognized in development of skills and abilities among the individuals, so they are able to meet their livelihoods opportunities (Desai, 2010).

**Supporting Distance Learning** – In higher educational institutions, distance learning is common (Desai, 2010). Distance learning is the learning, when the instructors and students are living at a distance from each other. When they are living at a distance, then technology is regarded to be of utmost significance in facilitating learning. The students and instructors communicate with each other through emails, the students send their assignments and reports and receive feedback. They collect and disseminate educational information and support the increase of technology literacy. In this type of learning, students usually acquire an efficient understanding of academic concepts through internet. Class lectures are not organized and this is one of the major disadvantages of distance learning.

**Supporting Constructivist Learning** – Constructivism is the paradigm of learning that assumes that learning is the process, where individuals construct meaning and new knowledge, which is based upon their prior knowledge and experience. The educationists refer to it as the emerging pedagogy in contrast to the long existing behaviorism view of learning. The use of ICT in education contributes more to constructivist learning. In this manner, students recognize their responsibilities and are more devoted towards learning. There is an increase in the involvement of students towards implementation of their tasks, making use of computers, mobile phones and internet. In this manner, there is a decline in the role of teachers towards advising or guiding students. Furthermore, the teachers feel satisfied with the performance of students (Mikre, 2011)[3].

**Promoting Active Learning** – ICT enhanced learning mobilizes tools for examination, analysis and calculation of information. The main objective is to make provision of platform for

the students to augment their learning abilities by getting involved into effective communication processes and participating in tasks and functions actively. In some cases, when teachers are teaching a lesson plan, they tend to implement certain methods and strategies to arouse interest among students and stimulate their mind-sets towards learning. One of the most effectual methods is role plays. In role plays, students are asked to assume roles of characters and then act out the plays. Through this method, they are not only able to acquire an efficient understanding of the concepts, but also take pleasure in learning. Hence, it can be stated that to promote active learning, it is vital for the teachers and students to possess knowledge in terms of efficacious teaching-learning methods.

**Promoting Integrative Learning** – ICT enhanced learning promotes a thematic integrative approach to the teaching and learning processes. This approach eliminates the artificial separation between separate disciplines and between theory and practice, which characterises traditional approach (Mikre, 2011). In simple terms, when one is making use of technology in enhancing learning, then the individuals not only are able to acquire efficient understanding regarding practice, but they are also able to generate awareness in terms of various aspects. For instance, when individuals are working on a research project, then they make use of internet to acquire knowledge and understanding in terms of various topics and concepts. In additions, they make use of MS word in typing information. Hence, it can be stated that ICT is made use of to promote integrative learning.

**Transforming Curriculum and Course Content** – [2]. Through the use of the internet, the individuals are able to acquire an efficient understanding in terms of number of concepts and subjects. For instance, when teachers are imparting knowledge to the students in terms of morality and ethics, then through the use of the internet, they are able to obtain numerous examples and case studies, which would facilitate the understanding of morality and ethics among students. Within textbooks, in some cases, the information that is provided in terms of concepts is brief. Therefore, teachers make use of internet in bringing about transformations within the curriculum and course content. When teachers are teaching math concepts, then too, they encourage their students to make use of internet to obtain access to examples and problems that would facilitate their understanding.

## Conclusion

The use of ICT has rendered a significant contribution in bringing about improvements in the system of education in numerous ways. The members of the educational institutions are not only able to enhance their knowledge and understanding in terms of number of aspects, but also are able to carry out the tasks and activities in an operative manner. In other words, with the possession of skills and abilities, the implementation of tasks and activities become more manageable. The benefits of ICT in education are recognized in terms of various aspects. These are, teaching-learning processes, quality and accessibility of education, learning environment, learning motivation and scholastic performance. When the members of the educational institutions are well-equipped in terms of usage of technology, then they are able to bring about improvements in teaching-learning processes, quality and accessibility of education, learning environmental conditions and scholastic performance. Furthermore, students become motivated towards learning and work effectively towards achievement of academic goals.

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## 6. Increase in Online Stock Market

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### **Abstract**

Nearly two billion people are connected to the Internet. During the last twenty years, the technology revolution has had an intense and irreversible impact on the world and, Indian stock market has also witnessed these changes. From its formal inception in the 19th century, the Indian capital market has come a long way and can be said to be in a maturity stage, backed by a developed legal system. The internet has made financial products and services available to more customers and eliminated geographical barriers. Earlier investors were solely dependent on their brokers but nowadays they are participating more in buying and selling of shares with the help of internet. E-trading has saved time, energy and money as it helps to access the market from any where at any time. The primary objective of this research paper is to analyze the impact of internet growth on the stock market transactions. The paper also discusses the current state of internet trading in India and particularly the scope of online trading market available in India.

**Keywords:-** Indian Stock Market, Internet, Online Stock Trading

### **Introduction**

India was introduced to the Internet in the early 90's and the use started to increase rapidly. India stands 5th in the list of countries by number of internet users. The Stock markets introduced Internet trading (online-trading) in February 2002 which has brought a tremendous change in trading. The National Stock Exchange started the first form of online trading wherein user/investors can buy/sell stocks in a day without much paper work. Earlier it used to take around 60 days to buy/sell stocks in stock markets and the investor also had to go through loads of paper work. But thanks to Internet the wait has curbed and in the last ten years, Indian capital markets have recorded 1488% of growth in exchange turnover.

In the Indian context, online trading can be rightly called as a recent phenomenon, and even till day online trading is not much popular among investors for which a list of factors can be blamed. This fact is clearer from the information available that where numbers of stock

exchanges in India have grown from 7 exchanges in 1946 to total 23 stock exchanges till 2011, only two stock exchanges are providing online share trading. Online trading is gaining momentum with trading volume growing by 150 % per annum.

### **Online Stock Trading in India**

Online stock trading in India has gained ground in the last two years. It's interesting to note that it was a beer making company, "WIT Beer" that for first time, way back in 1969, had introduced the idea of online stock trading. There are several leading companies involved in online stock trading in India. ICICIDirect, Sharekhan, AnandRathi, Geojit securities, Indiabulls, Religare, Kotak Securities, Motilal Oswal Securities, Reliancemoney, India Infoline.com Securities limited, and IDBI Paisabuilder are the major players in online Indian stock trading.

### **Literature Review**

Brad M. Barber and Terrance Odean (2002) analyzed 1,607 investors who switched from phone based to online trading during the 1990s. Those who switched to online trading perform well prior to going online, beating the market by more than 2% annually. After going online, they trade more actively, more speculatively, and less profitably than before—lagging the market by more than 3% annually. Reductions in market frictions (lower trading costs, improved execution speed, and greater ease of access) do not explain these findings. shift. The idea is that overconfidence induces them to switch but then excessive trading after the switch dissipates their profits.

Nidhi Walia and Ravinder Kumar (2007) wrote in their research paper, which was published in Indian journal of marketing, that there is no denying the fact that internet trading offered investors convenience of trading along with reduced cost [5]. But Indian investors have not yet fully realized the importance of using technology for stock trading. The major findings of the study are the Indian investors are more conservative, they do not change brokers for trading, whereas net traders are more comfortable with online trading for its transparency and complete control of the terminal.

### **Facts and Figures of Indian Stock Market**

Trading Volume In the year 2009-10, the trading volumes increased by 50.36 % to 4,138,023 crore (US \$ 916,709 million) from 2,752,023 crore (US \$ 540,142 million) during 2008-09. The average daily trading volume increased from 11,325 crore (US \$ 2,223 million) during 2008-09 to 16,959 crore (US \$ 3,757 million) during 2009-10. The remarkable aspect was

that the trading volumes in the year 2009-10 showed a growth of 16.53 % over the trading volumes witnessed in 2007-08.[2].

E-Commerce Market to Be Rs. 46,520 Crores In 2011 The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI)[6].

### **Impact of Internet on the Growth of Financial Market**

E-Commerce Market to Be Rs. 46,520 Crores In 2011 The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI).[3]

60 Million Internet Users in India Witness Financial Transactions over Internet Ministry of Communications and Information Technology, is of the opinion that the utility and relevance of digital commerce can be well understood by the fact that out of approximately 60 million internet users in India, nearly one third of this number are doing financial transactions over internet. Digital Commerce holds huge importance, especially for the Indian economic structure. There is a lot of potential for the rural population as the outreach is very important to enable the rural population to gain maximum without having to spend so much by saving on fuel, time and effort etc.

### **Conclusion**

Capital market plays a vital role in providing liquidity and the potential of the Indian capital market is immense. Stock market development matters for growth as access to external funds allows financially constrained firms to expand. The paperless trading environment has reduced manipulations to a large extent and financial markets have started rewarding companies. Security is also one issue which is acting as a challenge at the mindshare level of internet users. Although threats are growing and getting increasingly dangerous, but technology is available to enable secure e-commerce experience. Through digital commerce the rural user can access



services and data easily and effectively. All we need to look at carefully is to create a robust and safe infrastructure for carrying out this activity of users though online or mobile gateway. Fast internet connection, if provided at lower prices can give a boost to digital commerce regime.

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## 7. Research Paper on Work from Home

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### **Abstract**

We're getting to know to supply earlier than and for the duration of make money working from home [WFH] for the duration of the Covid-19 period epidemic, using workforce information and analytics from extra than 10,000 professional specialists in much of Asia. IT offerings business enterprise. Hours labored extended, consisting of an 18% growth over ordinary enterprise hours. Medium output reduced barely, hence productivity decreased by using 8-19%. Then we assessment the decisions of changes in production. employees with youngsters at domestic increase operating hours as properly have a more decline in productiveness than those with out kids. ladies had a full-size decline productiveness, while those with the business enterprise's toughness work better. An essential supply of change

**Keywords:** Collaboration, Integration, Covid-19 Epidemic, Production, Remote Activity, Telecommuting, Homework, Working Hours, Work Hours

### **Introduction**

The information on how personnel Homework [WFH] has been on the upward thrust for years, as extra jobs use computer systems and telecommunications, greater people have a dependable home net connection, and greater families have both dad and mom. running full time. The Covid- 19 epidemic extended this process by using forcing a huge a part of worldwide team of workers to switch to WFH at the least quickly. as compared to working in the office [WFO], WFH has the capability to lessen commuting hours, provide flexible running hours, and increase workload pleasure, and improving the operating existence stability. however, little is thought about anything more vital outcomes of WFH, along with its consequences on production and what factors play a role in making WFH greater or much less effective than WFO (WSJ, 2020; financial instances, 2021b). on this paper we provide an analysis of the effects of WFH on a huge Asian IT offerings commercial enterprise corporation. The agency suddenly modified all

employees from WFO to WFH in March 2020, in reaction mainly the surprise of the unexpected epidemic. Our studies has numerous novels with interesting

capabilities. The industry and jobs analyzed here are amongst the ones which are anticipated to be the first-class [3]WFH. personnel are particularly skilled professionals in an information technology business enterprise in which a high stage of work has been achieved electronically.[2] at the identical time they're very precise difficult to investigate. duties include an essential function of know-how, running with companies, operating with them clients, and innovation. production is tough to degree such sports. WFH jobs with such functions not previously study with non-survey facts. In a crew of extra than 10,000 personnel and a 17-month length that includes both WFO and WFH, we've received surprisingly wealthy records from agency personnel facts and worker data programs. [5]This consists of the main result of each worker and operating hours, which give a natural degree manufacturing. To acquire a smaller sample, the enterprise divided time among jobs jobs. This includes meetings, collaboration and time focused on doing work outdoors distractions.[4] Includes information on communication activities (contact) with both partners inside and outside the company. We also have staff information, duration, age, commute time (for WFO), gender, and number of children in the home.

### **Data and Empirical Strategy**

[6]The staff is highly skilled and educated. Almost all of them have at least a bachelor's degree, usually in the field of technology such as computer engineering or electronics.[7] Most work in large companies, modern corporate campuses in several cities in their home country. These campuses look and feel great similar to what one sees at Microsoft, Apple or Amazon. We have been provided with anonymous employee data of various types, and managers have spent a lot of time explaining business processes and conditions. All the writers visited the company headquarters A amazing benefit of this have a look at is that the overall performance degree is likewise robust motive. The manager designs the primary metrics to reflect the most crucial component of the process, too that is tracked through analytics packages. as an instance, a software program developer could be some of finished code sections. Importantly, this kind of degree does not absolutely replicate the cost (which is can cause obvious problems of selling a couple of jobs).[1] rather it's miles a conditional end result of sufficiency overall performance of different performance measures, along with quality or purchaser pleasure. for instance, code

segments will no longer matter as complete until they meet business [2]enterprise and purchaser standards by way of mistakes, speed, and overall performance. moreover, because the measure is based on output, it shows variability staff enter, together with time, effort, talents development, customer interaction, drawing colleagues for advice, and so forth. employees in our pattern do now not acquire the corresponding reimbursement or every other amount. compensation includes revenue,[8] annual eligibility bonus based totally on complete overall performance, as nicely occasionally small prizes for sports along with the notion of important new thoughts. That works the degree is tied to the business enterprise’s marketing strategy shows that employees are recommended to try to meet their personal goals, and our proof confirms this. the motivation, but, is an awful lot broader, [2]way to the supervisor tracking, remarks, impartial testing, eligibility payments, and the capability to earn promotions (as is the case truth in lots of companies).

	Mean	90	1st Quartile	3rd Quartile	N
<b>WFO (pre-March 2020)</b>					
Input	3.68	3.03	3.75	5.35	47387
Output	416.52	33.00	160.00	100.00	47387
Productivity	1.10	0.90	0.75	1.25	47387
<b>WFH (post-March 2020)</b>					
Input	2.11	2.21	2.25	2.91	22802
Output	190.97	3.80	100.00	100.00	22802
Productivity	1.10	2.17	1.92	1.25	22802

Independent variable	(1)	(2)	(3)	(4)	(5)	(6)
	Input	Input	Output	Output	Productivity	Productivity
WFH	0.112***	1.209***	0.0342***	0.098	0.296*	0.236*
Control	0.0141	0.0198	0.120	0.150	0.011	0.070
Constant			0.040***	0.045**		0.016
			(0.010)		(0.015)	(0.017)
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1573	1573	1573	1573	1573	1573
Observations	18282	18282	18282	18282	18282	18282
Robust SE	0.040	0.012	0.010	0.015	0.017	0.017

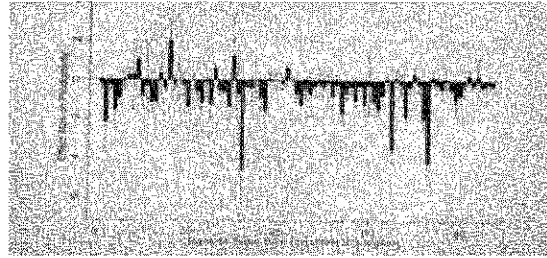
**Common WFH Effects**

Before intending to the regression analysis, parent 1 lists three major outcomes per month with the intention to attain an correct view of the impact of WFH. this will also assist us to understand what econometric is fashions (1) or (2) appear to be very effective in controlling time developments. according to discern 1a, input, employees offer about 5- five.5 hours of each day input; i.e.,[6] time has come who make full use of their software program or programming gear, or in meetings or communications. there may be a small distinction as compared to the pre-WFH relevant inputs, that have a smaller upward fashion. Consequently another viable reason for the increase in time spent is the approach to quit the epidemic closed eating places, cinemas, and so forth., for this reason decreasing the quantity of amusement time. underneath this definition, but, [1]we will anticipate Output to growth and manufacturing to stay almost steady, which is not what we see. Appendix discern B.5 suggests that at the same time as we see a small immersion in operation hours after each[5] phase of the lockdown stretch, the effect is minimum and, more importantly, handiest brief. Nor do we find proof that productivity or other outcomes range by

using u . s . a . or place Covid sharpness indicators, which includes death or case values. eventually, we are capable of degree the wide variety of days an worker worked compared to a number of working days in keeping with month. according to table A.[6] inside the appendix, the quantity of sick days decreased remarkably. This indicates that absence or contamination become no longer the purpose of the decline in productiveness. Who copes better with WFH? Heterogeneous WFH results We now discover what drives the WFH effect in greater intensity, and which subgroups are most stricken by the shift to WFH. desk 5 presentations estimates for all final effects variables, one by one through the manner of whether or now not Who copes higher with WFH? Heterogeneous WFH effects We now discover what drives the WFH impact in greater depth, and which subgroups are most suffering from the shift to WFH. desk 5 presentations estimates for all final results variables, separately through whether or not employees have youngsters at home and by using gender, [3]we use our preferences time manage in the past component. The variety of observations is barely reduced from the additional descriptive variables are missing in a few personnel. we've got changed the definitions of definitions (aside from commute [4]time) into dummy variables for clean interpretation. inside the u . s . in which the organisation is located, all colleges have been closed in March 2020 in the course of the Covid19 violence, so running from home became a primary project for some mother and father, as kids had to be supervised and possibly educated. consequently, we are investigating[7] whether or not we have children the home has modified the WFH impact of the employee. crucial qualifications that beneath regular instances, kids will pass to high school and any unfavourable outcomes of WFH on parental manufacturing may be beneath customer, however not within the identical venture. inside the image the companies are sorted with the aid of size (wide variety of institution individuals) with [4]growing order from left to proper. The end result is poor for nearly all corporations. This shows that every one bad consequences on manufacturing (indicated by way of the dash line in discern 2) not operated by means of a few clients or corporations. as an alternative, WFH production declined broadly all through the us of a the organization examine

**Table 4. Working hours (hours) (hours) (hours) (hours) (hours) (hours)**

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)
WFH	0.1234	0.1234	0.1234	0.1234	0.1234	0.1234
WFH x Children						
WFH x Male						
WFH x Married						
Constant						
Observations						
R-squared						
Adjusted R-squared						
F-statistic						
Prob > F						
Model Summary						
Source						
Sum of Squares						
Mean Square						
F Value						
Pr > F						
Root Mean Square						
Clustering						



**Running Hours:** Hours shows a trade in overall performance styles after the onset of WFH. In step with the evidence in phase four.1, WPA data shows that the [2] hours worked have multiplied, inclusive of those that are more than regular. running hours. The panels (c) and (d) display an exciting pattern. employees spend a whole lot of time in conferences or calls and feature a small "awareness time" (i.e., a time that can be interrupted by way of meetings or calls to attention [4]on finishing jobs). greater time spent in meetings, and its staying power after the primary WFH trade segment, raises substantial and ongoing hyperlink charges with WFH, which have a negative impact on time to be had to work in a efficient manner. The reality that personnel have much less time to work targeted or an uninterrupted method can also give an explanation for why they are found to be doing so many things at a time meetings

**Networking and Collaboration**

We now attention on verbal exchange and collaboration styles in element. knowledge the adjustments in verbal exchange and collaboration can inform us [5]some thing about the quantity of more time spent at meetings. modifications in verbal exchange patterns can also affect productivity in a selection of ways, for example, in affecting the exchange of thoughts and statistics. desk 8 shows how verbal exchange and collaboration styles trade with WFH. Columns (1) and (2) cognizance at the number of human beings inside and outside the business enterprise, respectively, a co-worker have significant verbal exchange (defined as electronic mail, meeting, telephone, or at the least 3 instant messages) at a time remaining 28 days. There is a good widespread exercise of time, which may additionally suggest the truth that the network could be very important to this company. but, there may be an apparent negative impact of WFH the quantity of employees with whom they have interaction in significant [6]interactions.19 Columns (3) and (4) contain the consequences of the same steps, which awareness at the cost of the employer devices within and outside the business enterprise in which the employee interacts

with any other man or woman (column (four)). here we also see a decrease in touch as a result of WFH, no matter the same old upward trend, despite the fact that within the popularity of inner agency gadgets decline is not statistically full-size average, these styles highlight the negative impact of WFH [8] on the network. The group of workers went a few interactions with specific human beings and organizational gadgets within and outdoor the organization.

additionally they have a few 1: 1 meetings with management, and receive much less schooling. these have misplaced opportunities network can help explain why WFH reduces productivity. it is also viable to reduce staff development, even though that is extra than simply measuring with our data productivity usual, those patterns spotlight the bad effect of WFH on the community. The employees left a few interactions with distinct human beings and organizational devices within and out of doors the organisation. they also have a few 1: 1 conferences with control, and acquire much less schooling. those have misplaced possibilities the community can assist provide[5] an explanation for why WFH reduces productivity. it's also feasible to reduce group of workers development, even though this is extra than just a degree of our statistics In precis, on this segment we've shown that WFH makes considerable adjustments in performance patterns. The group of workers turned into very busy, which include normal office hours, but they had a little undisturbed time to do that. focus on finishing work as they spend more time at meetings.[1] They have a small network and spend less time testing, training and coaching. We have also shown evidence of this decline, in particular in the hours of focus and communication, it has been detrimental to production.

### **Conclusion**

In this paper we present a detailed analysis of the WFH production variables for information staff. The paper makes several important work of which is expected to be beneficial to WFH, but involves critical understanding, collaboration and innovation. jobs. The data provides an unusually high level of productivity of staff information staff. The breadth of data allows for the first complete analysis of WFH decisions production. We provide evidence of how WFH product differs from employee features, the presence of children at home, and WFO travel time. We also use detailed employee data they spend their working time studying the effects of job symbols on WFH production.

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## 8. Increase in Online Stock Market

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### **Abstract**

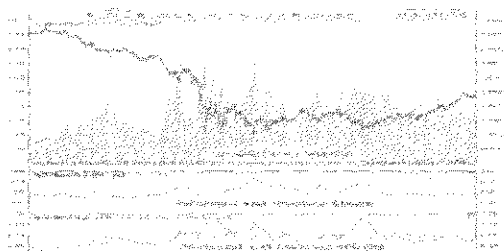
Nearly a pair of billion of us are connected to Infobahn. throughout the last twenty years, the technology revolution has had associate intense and irreversible impact on the world and Indian stock market has together witnessed these changes. From its formal origin among the nineteenth century, the Indian capital market has return a long suggests that and will be said to be in a maturity stage, backed by a developed system. the online has created financial products and services out there to plenty of consumers and eliminated geographical barriers. Earlier investors were completely obsessed to their brokers but these days they are participating plenty of in buying and promoting of shares with the help of internet. E-trading has saved time, energy and money as a result of it helps to access the market from any where at any time. The primary objective of this analysis paper is to analysis the impact of net growth on the stock market transactions. The paper jointly discusses the current state of internet mercantilism in India and notably the scope of on-line mercantilism market out there in India..

**Keywords:** Indian Stock Market, Internet, Online Stock Trading.

### **Introduction**

India was introduced to the net in the first 90's and the utilization started to increase rapidly. India stands fifth within the list of nations by range of net users. The Stock markets introduced net mercantilism (online-trading) in Feb 2002 that has brought a tremendous modification in mercantilism. The National securities market started the primary sort of online mercantilism whereby user/investors will buy/sell stocks during a day while not a lot of paper work. Earlier it accustomed take around sixty days to buy/sell stocks available markets and also the investor conjointly had to travel although various paper work. however because of net the wait has curbed and within the last 10 years, New Delhi markets have recorded 1488% of growth

in exchange turnover.

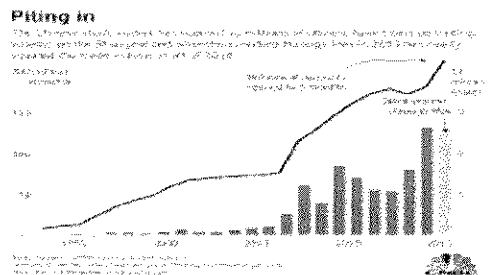


**Online Stock** mercantilism IN Asian country Online stock mercantilism in Asian country has gained ground within the last 2 years. It's fascinating to note that it had been a brewage creating company, "WIT Beer" that for initial time, approach back in 1969, had introduced the thought of on-line stock mercantilism. There square measure many leading companies concerned in on-line stock mercantilism in Asian country. ICICIDirect, Sharekhan, AnandRathi ,Geojit securities, Indiabulls, Religare, Kotak Securities, Motilal Oswal Securities, Reliancemoney, Asian country Infoline.com Securities restricted , and IDBI Paisabuilder are the main players in on-line Indian stock mercantilism.

#### Literature Review

Brad M. Barber and Terrance Odean (2002) analyzed one,607 investors World Health Organization switched from phone based mostly to on-line mercantilism throughout the Nineties. people who switched to on-line mercantilism perform well before going surfing, beating the market by quite two annually. After going on-line, they trade a lot of actively, a lot of with speculation, and less productively than before—lagging the market by quite three-d annually. Reductions in market frictions (lower mercantilism prices, improved execution speed, and greater easy access) don't justify these findings. Overconfidence—augmented by self attribution bias and therefore the illusions of information and control—can justify the rise in trading and reduction in performance of on-line investors. They found that investors World Health Organization choose to create investments on-line area unit higher performers than people who don't go browsing before the switch however worse performers when the shift. the thought is that cocksurenness induces them to modify then again excessive mercantilism when the switch dissipates their profits. Haroun Alryalat, Yogesh Kumar Dwivedi, Jasna Kuljis, and Ray J. Paul (2006) analyzed the impact of on-line and ancient mercantilism on effective market performance on the NASDAQ. the aim of this paper was to gift a appraisal on the competition between on-line (ECN) and ancient (Market Maker (MM)) mercantilism on the National Association of

Securities Dealers Automated Quotations stock exchange. on-line stock mercantilism mechanisms at the exchanges area unit usually a hybrid of dealer and auction markets. totally different aspects of mercantilism execution, that is that the most commonly used market centre at this time, were analyzed. This results in a discussion on: (1) the trail that executes order is organized and (2) its impact on the effective market performance, mercantilism price and capitalist behaviour. Nidhi Walia and Ravinder Kumar (2007) wrote in their analysis paper, which was published in Indian journal of selling, that there's no denying the very fact that web trading offered investors convenience of mercantilism on with reduced price. But Indian investors haven't however absolutely accomplished the importance of mistreatment technology for stock mercantilism. The major findings of the study area unit the Indian investors area unit a lot of conservative, they do not amendment brokers for mercantilism, whereas internet traders area unit more leisurely with on-line trading for its transparency and complete management of the terminal. In the Indian context, on-line mercantilism are often justifiedl referred to as as a recent development, and even until day on-line mercantilism is not abundant in style among investors for that a listing of factors will be goddamned. This truth is clearer from the info on the market that wherever numbers of stock exchanges in Asian country have mature from seven exchanges in 1946 to total twenty three stock exchanges until



**Facts and Figures of Indian Stock Market**

**Trading Volume**

In the year 2009-10, the commerce volumes augmented by fifty.36 % to 4,138,023 large integer (US \$ 916,709 million) from a pair of,752,023 large integer (US \$ 540,142 million) throughout 2008-09. The average daily commerce volume augmented from eleven,325 large integer (US \$ a pair of,223 million) throughout 2008-09 to sixteen,959 large integer (US \$ three,757 million) throughout 2009-10. The exceptional facet was that the commerce volumes within the year 2009-10 showed a growth of sixteen.53 overcome the trading volumes witnessed in 2007-08.

### **Market Capitalization**

The total market capitalization of securities obtainable for commerce on the CM phase increased from 363,350 large integer (US \$ a hundred and fifteen,606 million) as at finish March 1995 to six,009,173 crore (US \$ one,331,230 million) as at finish March 2010. The capitalization witnessed a rise of 107.49 that in 2009-10 as compared to the market capitalization of two,896,194 large integer (US \$ 568,439 million) in 2008-09. As compared with 2007-08, the capitalization in 2009-10 augmented by twenty three.69 %. The market capitalization quantitative relation of NSE was ninety seven.49% as of March thirty one, 2010. the corporate with the highest capitalization as of March 2010 was Reliance Industries restricted followed by Oil and gas Corporation of Asian nation restricted and NTPC Ltd.

**On-line IPOs** The on-line commerce system of NSE is employed by corporations to form IPOs through book building. it's a completely automatic screen primarily based bidding system that permits commerce members to enter bids on behalf of their shoppers. All bids received by the system area unit numbered, time sealed, and hold on within the book until the Judgement Day of the book building method and also the offer

### **Internet Commerce**

At the tip of March 2010, a total range of 363 members were allowable to permit investor's internet primarily based access to NSE's commerce system. The members of the exchange in turn had registered five,143,705 shoppers for internet primarily based access as on March thirty one, 2010. During the year 2009-10, 11.13 you look after the commerce worth within the Capital Market phase (692,789 - US \$ 135,974 million) was routed and dead through the net. The table below shows the expansion of net commerce from the financial years 2006-07 until 2009-10. Chart-1 shows the net commerce volumes within the CM phase of NSE as compared with the total listed volumes at NSE.

### **Internet and Economic Growth**

According to a McKinsey report titled 'Internet matters: The Net's sweeping impact on growth, jobs, and prosperity', discharged at the e-G8 Forum command in Paris on night 24-25, 2011, net contributed 5 per cent to the complete gross domestic product (GDP) growth of India in the past five years compared with the everyday 3 per cent for BRIC (Brazil, Russia, Bharat and China) economies. As per the report, companies unit of measurement able to keep costs down, target customers higher and convey merchandise and services to markets around the world

much more merely. Individuals unit of measurement able to compare prices, search hard-to-find things or knowledge, communicate and learn in new, improved ways in which during which. Governments can serve voters long more quickly and at a way lower price through e-governance. keep with the report there unit of measurement 2 billion net users worldwide and as a sector, net connected consumption and expenditure is presently larger than agriculture or energy. The report any said that net options a sweeping impact on growth, prosperity of a country and has created 2.4 jobs for every job that it's destroyed. "The net might be a contributor to web job creation. whereas jobs area unit destroyed by the emergence of internet, additional area unit created throughout identical quantity, along side jobs directly linked to cyber web, like package engineers and on-line marketers moreover as extra traditional jobs, provision to deliver on-line purchases," the report different. Moving towards Associate in Nursing Internet-based economy can facilitate fill the gaps that end in poor performance in a ancient economy. Initiatives in the agriculture sector, such as 'mKrishi' in Madhya Pradesh, modify farmers to exploit timely complete recommendation. The 'aAqua' project in geographical region uses cyber web to connect with farmers to address a range of concerns related to production, pricing, input and output supply. The web is in addition promoting government services throughout an enormous methodology. Examples like Aarogyasri in state unit of measurement enabling end-to-end cashless services to voters, and filling health sector gaps in doctors or basic infrastructure. Broadband-supported, community-driven [1]initiatives like Barefoot faculty in Rajasthan, Chanderiyaan in Madhya Pradesh and AirJaldi in Himachal Pradesh unit of measurement having accelerated effects on voters. HarVa might be a greenfield project that's Associate in Nursing outstanding example to demonstrate the causal impact of cyber web on gain. The Internet is presently wide thought of a basic infrastructure among the Organization for Economic Cooperation and Development (OECD) countries in long identical methodology as electricity, water and transportation. India, as Associate in Nursing OECD member, ought to acknowledge access to cyber web as a basic right. [2]



**Impact of Net on the Expansion of Monetary Market**

E-Commerce Market to Be Rs. 46,520 Crores In 2011 The internet commerce business in Republic of India has seen a manifold increase within the last few years with the overall market size increasing from government agency nineteen, 688 crores by the tip of 2009 to an calculable government agency thirty one, 598 crores in 2010. world wide web commerce market size is anticipated to grow by forty seventh and bit government agency forty six,520 crores by finish of 2011. This was highlighted by a report on the E-commerce discharged by the net and mobile Association of Republic of India (IAMAI).2680 crores by finish of Gregorian calendar month 2011.

Table 3: monetary Services (in Crores) Source

[http://www.iamai.in/PRelease\\_Detail.aspx?n](http://www.iamai.in/PRelease_Detail.aspx?n) id=2230&NMonth=3&NYear=2011

Nation-Wide Broadband property may be Achieved In three Years:

The net ANd Mobile Association of Republic of India (IAMAI) has aforementioned that an freelance agency will guarantee national broadband property across the country at intervals thirty six months. This was aforementioned by the association in its response to the medium administrative unit of India's (TRAI) new set of recommendations on the National Broadband arrange 2010. IAMAI totally supports TRAI's recommendations brought get in the consultation paper on National Broadband arrange. AMAI is of the read that the TRAI proposal aboard and in parallel with the developments within the market place viz., arrival of 3G and BWA are able to usher in a real broadband revolution in Republic of India. 60 Million net Users in Republic of India Witness monetary Transactions over net Ministry of Communications and info Technology, is of the opinion that the utility and connection of digital commerce may be well understood by the actual fact that out of approximately sixty million net users in Republic of India, nearly one third of this variety square measure doing monetary transactions over net. Digital Commerce holds Brobdingnagian importance, particularly for the Indian economic structure. There is loads of potential for the agricultural population because the reaching is extremely necessary to enable the agricultural population to achieve most while not having to pay most by saving on fuel, time and energy etc.

**Conclusion**

Capital market plays an important role in providing liquidity and also the potential of the Indian capital market is vast. exchange development matters for growth as access to external

funds permits financially forced corporations to expand. The paperless commercialism environment has reduced manipulations to an oversized extent and money markets have started rewardful corporations. Security is additionally one issue that is acting as a challenge at the mindshare level of net users. though threats area unit growing and obtaining increasingly dangerous, however technology is obtainable to alter secure e-commerce experience. Through digital commerce the agricultural user will access services and information simply and effectively. All we'd like to seem at fastidiously is to form a sturdy and safe infrastructure for effecting this activity of users tho' on-line or mobile entryway. Fast internet affiliation, if provided at lower costs will provide a lift to digital commerce Regime.

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## 9. Online Food Ordering System

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### **Abstract**

ONLINE FOOD ORDER SYSTEM is in the main designed primarily operate to be used at intervals the food delivery trade. This system will change hotels and restaurants to increase on-line food ordering such quite business. the patrons is also elite food menu things merely few minutes. at intervals the trendy food industries permits to quickly and easily delivery on consumer place. structure employees then use these orders through simple|a straightforward} to delivery on consumer place simple conclude navigate graphical interface for economical method.

**Keywords:** online, food, payment.

### **1.1 Introduction**

In a fashionable generation on-line food ordering might be a top quality of food delivery or takeout from a part restaurant or food cooperative. presently days the zoom inside the employment of net and additionally the technologies associated with it, the numerous opportunities ar arising on the web or mobile application. this could be created potential through the employment of electronic payment system. The payment is finished through the customer's mastercard, debit card. it's potential for everyone to order any merchandise from anywhere cyber web and have the merchandise delivered at his/her home. all kinds created be net autoimmune disease dealing ads to the economic of digital cash, the desired tool for this methodology telecommunication with customers. The system will become an important tools use for restaurant to spice up the management aspect by use of {data|of information} process system|ADP system|ADPS|system} to connected each and every food ordering dealing instead of data record on it. to boot, it will even provide efficiency for the restaurant by reducing time overwhelming, minimize human errors or delivery and providing smart quality and repair to customers. In terms of the integrity and convenience of the system provided, it's finished that this methodology might be a applicable answer.



## **1.2 Objectives**

**The objectives of this study is as follows;**

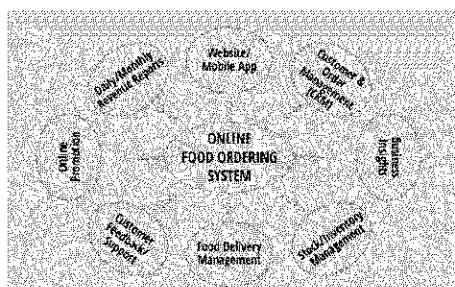
1. to gauge the approach of interaction with customers.
2. To develop a eatery ordering system with mobile application supported the patron server application.
3. To determine the factors that influence shopper once ordering food on-line.
4. To processed the food ordering system technique and show details of sales history.

## **1.3 Scope of study**

Restaurants offers electronic ordering every through their own on-line net or mobile computer and through sites that serve various restaurants, and each one restaurants in addition accept orders via text message a great deal of over the credit purpose and discount coupon out that many restaurants multiplied sales level as a results of acceptive electronic orders. The structure presently day a interactive and up-to-date menu with all accessible decisions in a very straightforward to use manner. Most of Younger shoppers were a great deal of doable to have used on-line food ordering is really adoption on selfservice approaches. Well-designed self-service ordering systems supply customers actual management over the pace of their dealings and allow them to limit the quantity of personal interaction of structure. In most cases, associate multiplied level of management has been shown to steer to higher level of shopper satisfaction and larger intent to use or counsel urged the service. Perceived convenience of a self-service system in addition ends up in an increase in adoption and satisfaction. throughout this instance, the definition of convenience is alleged primarily to access convenience and dealings convenience. A shopper will rummage around for a favorite structure base on shopper location, choose from accessible things. Payment are amongst others either by mastercard or cash

## **1.4 Research Methodology Research Design**

This study adopted convenience sampling. Sampling was done by interviewing haphazardly selected respondents. A structured type was used for data assortment. the shape was divided into three sections, the first section was regarding the personal profile of respondents and second, were designed to evaluate mistreatment of purchaser overall experiences with the quality of services that that they had received from the respondents and thus the last was handling the impact of purchaser satisfaction on loyalty.



### 1.5 Advantage of online food ordering system

#### Easy communicative

The online food ordering service may well be a native cafe and food cooperative data processor or application for purchasers. as a result of the ascension of excellent phone or pill at intervals the employment of internet and thus the technologies associated with the various opportunities to communicative, consumer. varied cafe unit of measurement presently endeavor into their business with communicate as a results of net and phonephone. one in all the businesses that net introduced is an online food ordering system.[1] In lately life many restaurants have focus on quick preparation and speedy delivery orders.

#### 1.6 Time saving

The online food ordering is currently days well-liked among the young generation snug, time saving and convenient. it's recent survey a shopper makes a mind to get on-line food he or she is multiple food things or menu card. the most known factors square measure time saving, and convenience. individuals compare costs in on-line food delivery web site and apps choice of the dish. the restaurants have to be compelled to build correct methods to extend the patron level of satisfaction.[2]

#### 1.7 Delivery place

In the system style to permit customers to travel on-line and place order for his or her food single or multiple food things. Recently, most of this delivery orders were placed over the phone, a significant breakthrough is that the wireless a pair of communication system that comes in subscriber line phonephone lines or Mobile communication and net and have the products delivered at his/her home. as a result of main perform his, GPS system ought to air the power to go looking service by any location and residential location.

#### 1.8 Always open Restaurant

In the eating place won't be opened 24/7, however your on-line ordering system sure as shooting. And it will assist you build cash even whereas you sleep. By victimization a web food ordering system, you provide your shoppers the pliability to position and convenient time the

orders. notwithstanding that happens outside your business hours. as a result of they'll simply like better to schedule to like pickup or delivery time open up to shoppers all day, on a daily basis at intervals your operating time.

### **1.9 Payment**

Any food from anyplace the web to and have the products delivered reception. however the transfer technique money on payment or on-line payment. In alternative words doable to on-line pay digital money. A client can Payment may be amongst others either by mastercard, a lot of over the web payments profit discount, coupon, gift prize with the eating house returning to enticing a client.

### **1.10 Disadvantageof online food ordering system**

#### **Cost of increase**

Online food ordering system service recognize days increase your budget. due to would like a replacement delivery team to produce the services and you wish to pay further charges. during this system all sort expense is transfer on shoppers.

### **1.11 Change of Environment**

The main completely different between the web food ordering and feeding in a very eating house is that the atmosphere around US. If one person chuck among home or he might not feel a amendment in atmosphere and refreshment and relax. however comfort is basically high level of on-line food subtract. If he dine-in luxury eating house with super style and lightweight music that atmosphere provides higher relax compared to the opposite.

### **1.12 Finding of the Study**

The Internet user of the 20th century is young, skilled, Higher levels of financial gain and better education. within the most of person urged on-line food ordering system convenience of food ordering timeprime reason from Selfservice . The respondents square measure victimization on-line ordering over fifteen in one times in an exceedingly months. nutriment things like Pizza/ Burgers/Sandwiches square measure most well liked menu things on the list of ordering followed by kabob, Curry and Biryani.

### **1.13 Suggestion**

In the quickest world of these days, the bulk of individuals square measure frequency order place on the shoppers of currently days square measure attracted on-line food ordering system is extremely convenient. the foremost of eating house ought to show on food things and offered, lowest value and intensely simplified navigation for the order.

### 1.14 Conclusion

Online Food Ordering system is completed to assist and solve one among the vital issues of client. Because sizable amount of customer can use the net and phone. Numerous problems associated with Mess/Tiffin Service are solved by these system. Thus, implementation of on-line Food Ordering system is completed to assist and solve one among the vital issues of client. It helps client in creating order simply and provides info required in creating order to client place. The Food web site application created for eating house large one facilitate to receiving orders.

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## 10. Growth in Online Stock Market

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**Yash Khodave**

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### **Abstract**

As an investor it is important to invest in right share overall the average stock market and people earn in 7 to 7% perfect only when accounting for flection Nearly a pair of billions of us are connected to Infobahn. Throughout the last twenty years, the technology revolution has had associate intense and irreversible impact on the world and Indian stock market has together witnessed these changes. From its formal origin among the nineteenth century, the Indian capital market has returned a long suggests that and will be said to be in a maturity stage, backed by a developed system. ether online has created financial products and services out there to plenty of consumers and eliminated geographical barriers? Earlier investors were completely obsessed to their brokers but these days they are participating plenty of in buying and promoting of shares with the help of internet. E-extruding has saved time, energy and money as a result of it helps to access the market from anywhere at any time. The primary objective of this analysis paper is to analyze the impact of net growth on the stock market transactions. The papers jointly discuss the current state of internet mercantilism in India and notably the scope of on-linwe mercantilism market out there in India.

**Keywords:** Indian Stock Market, Internet, Online Stock Trading

### **Introduction**

India was introduced to the net in the first 90's and the utilization started to increase rapidly. India stands fifth within the list of nations by range of net users. The Stock markets introduced net mercantilism (online-trading) in Feb 2002 that has brought a tremendous modification in mercantilism. The National securities market started the primary sort of online mercantilism whereby used/investors will buy/sell stocks during a day without a lot of paperwork. Earlier it used to be that I need somebody who could love me at my worst round of sixty days to buy/sell stocks available markets and also the investor conjointly had to travel though various paperwork. However, because ode net the wait has curbed and within the list 10 years, New Delhi markets have recorded 1488% of growth in exchange turnover.

**Online Stock** mercantilism IN Asian country online stock mercantilism in Asian Country has gained ground within the last 2 years. It's fascinating to note that it had been a brewage creating company, "WIT Beer " that for initial tide, approach back in 1969, had introduced the thought of on-line stock mercantilism. There square measure many leading companies concerned in on-line stock mercantilism in Asian countries. ICICIDirect, Sharekhan, AnandRathi ,goji securities, Indiabulls, Religare, Kotak Securities, Moiled Oswaldo Securities, Reliance money, Asian Country Infoline.com Securities restricted , and Edie Paisa builder are the main players in on-line Indian stock mercantilism. [1].

### **Literature Review Stock**

Brad M. Barber and Terrance Odeon (2002) studied 1,607 investors who moved from phone-based to online mercantilism throughout the Nineteen Nineties. People who shifted to online mercantilism performed well before going surfing, outperforming the market by a factor of two. After coming online, they trade more aggressively, more speculatively, and less effectively than before, trailing the market by more than three days every year. Reduced market frictions (lower mercantilism pricing, faster execution, and more ease of access) do not support these findings. Overconfidence compounded by self-attribution bias and therefore the illusions of information and control, might excuse the increase in trading and decrease in performance of online investors. They found that investors World Health Organization choose to create investments on-line area unit higher performers than people who don't go browsing before the switch however worse performer's when the shift the thought is that cocksureness induces them to modify then again excessive mercantilism when the switch dissipates their profits. Haroun Alryalat, Yogesh Kumar Divehi, Jane Kanjjs, and Ray J. Paul (2006) analyzed the impact of on-line and ancient mercantilism on effective market performance on the Nasdaq. The aim of this paper was to gift a appraisal on the competition between on- line (Eco) and ancient (Market Maker (MM)) mercantilism on the National Association of Securities Dealers Automated Quotations stock exchange. on- line stock mercantilism mechanisms at the exchanges area unit usually a hybrid of dealer and auction markets. totally different aspects of mercantilism execution, that is that the most commonly used market center at this time, were analyzed. This results in a discussion on (1) The trail that executes order is organized and (2) its impact on the effective market performance, mercantilism price and capitalist behavior.

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(fig. 1.1) **Facts and Figures of Indian Stock Market**

Bombay Stock Exchange (BSE) is the biggest stock exchange in the world in terms of the number of listed companies on an exchange. ... BSE is also the oldest stock exchange in Asia. ...

The participation of the common people in the Indian share market is below a stock

What is a fact about the stock market? The world's oldest stock market began in Belgium in 1460. The oldest U.S. stock market exchange opened in 1790 in Philadelphia. The Bank of New York was the first company to list on the New York Stock Exchange, in 1792. To get a seat on the New York Stock Exchange it costs millions of dollars.

Commerce is very important, especially for the Indian economic system. There is a lot of potential for the agricultural people since reaching is highly important for allowing the agricultural population to achieve the most while not having to pay the most by saving on fuel, time, and energy, among other things. merchandise and services to markets around the world much more merely. Individual units of measurement are able to compare prices, search hard-to-find things or knowledge, communicate and learn in new, improved ways in which during which. Governments can serve voters long more quickly and at a way lower price through e-governance. Keep with the report there unit of measurement 2 billion net users

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### **IMPACT of Net on the Expansion of Monetary MARKET**

E-Commerce Market to Be PRs. 46,520 Crores In 2011 The internet commerce business in Republic of India has seen a manifold increase within the last few years with the overall market size increasing from government ag65ency nineteen, 688 crores by the tip of 2009 to an calculable government agency thirty one, 598 crores in 2010. World wide web commerce market size is anticipated to grow by forty seventh and government agency forty-six,520 crores by the end of 2011. This was highlighted by a report on E-commerce discharged by the net and mobile Association of Republic of India (IAMAI). to usher in a real broadband revolution in the Republic of India. 60 Million Net Users in

The Republic of India is witnessing monetary transactions on the internet. According to the Ministry of Communications and Information Technology, the usefulness and connection of digital commerce can be well understood by the reality that over one-third of the sixty million net users in the Republic of India square measure undertaking monetary transactions over the internet. Digital

**Internet Commerce Size from**

Source: Report on E-Commerce discharged by IAMAI

The report conjointly highlights that of Gregorian calendar month 2011. Monetary Services (in Crores) Source: [3].

The net And Mobile Association of Republic of India (IAMAI) has mentioned that a freelance agency will guarantee national broadband property across the country at intervals of thirty six months. This was mentioned by the association in its response to the medium administrative unit of India's (TRAI) new set of recommendations on the National Broadband arrangement 2010. IAMAI totally supports TRAI's recommendations brought in the consultation paper on National Broadband arrangement. AMAI is of the read that the TRAI proposal abroad and in parallel with the developments within the market place viz., arrival of 3G and BWA are able to usher in a real broadband revolution in Republic of India. 60 Million Net Users in

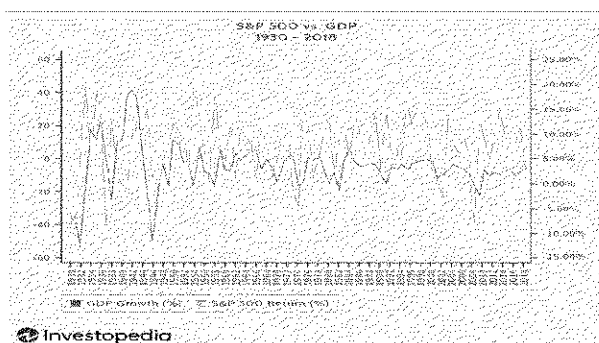
The Republic of India is witnessing monetary transactions on the internet. According to the Ministry of Communications and Information Technology, the usefulness and connection of digital commerce can be well understood by the reality that over one-third of the sixty million net users in the Republic of India square measure undertaking monetary transactions over the internet. Digital Commerce is very important, especially for the Indian economic system. There is a lot of potential for the agricultural people since reaching is highly important for allowing the agricultural population to achieve the most while not having to pay the most by saving on fuel, time, and energy, among other things. [4].

**Conclusion**

The capital market plays an essential role in supplying liquidity, and the Indian capital market has enormous potential. Change development concerns for growth concerns as access to external funding allows financially pressed firms to expand. The paperless commercialism environment has greatly decreased manipulations, and money markets have begun rewarding firms. Security is another topic that is posing a difficulty in the eyes of internet users. Despite the fact that threats are developing and becoming more hazardous, technology is available to change secure e-commerce experiences. The agricultural user will be able to easily and quickly access services and information thanks to digital commerce. All we'd want to seem at meticulously is to construct a strong and secure framework for carrying out this user activity. [3].

1. To know the growth of online stock trading
2. To analyze problems and challenges involved in online stock trading
3. To know the advantages of online stock trading

4. To know online stock trading process
1. To know the growth of online stock trading
2. To analyze problems and challenges involved in online stock trading
3. To know the advantages of online stock trading
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3. To know the advantages of online stock trading
4. To know online stock trading process



(fig.1.2)

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# 11. Offline to Online Investments Increase in Online Stock Markets

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## Introduction

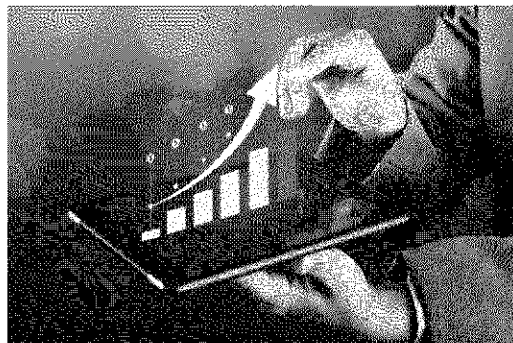
Connected to the net. throughout the last twenty years, the technology revolution has had Associate in Nursing intense and irreversible impact on the globe and Indian exchange has conjointly witnessed these changes. From its formal beginning within the nineteenth century, the New Delhi market has come back an extended approach and may be aforesaid to be during a maturity stage, backed by a developed system. the net has created monetary merchandise and services out there to additional customers and eliminated geographical barriers. Earlier investors were entirely enthusiastic about their brokers however today they're collaborating additional in shopping for and marketing of shares with the assistance of web. E-trading has saved time, energy and cash because it helps to access the market from anyplace at any time. the first objective of this analysis paper is to analyse the impact of web growth on the exchange transactions. The paper conjointly discusses this state of web mercantilism in Asian country [Bharat |Asian country| Asian nation} and notably the scope of on-line mercantilism market out there in India. trade stock markets suggests that the transfer for cash of a stock or security from a merchandiser to a emptor. this needs these 2 parties to agree on a worth. Equities (stocks or shares) confer Associate in Nursing possession interest during a explicit company. on-line mercantilism is that the act of inserting buy/sell orders for monetary securities and/or currencies with the utilization of a brokerage's internet-based proprietary mercantilism platforms. the utilization of on-line mercantilism enlarged dramatically within the mid- to late-'90s with the introduction of reasonable high-speed computers and web connections. The act of shopping for and marketing international currencies, futures, stocks, bonds and alternative monetary instruments through the net. on-line mercantilism typically needs {an on-line |a web| an internet} mercantilism platform offered by most online brokers for order execution. on-line stock

mercantilism suggests that shopping for and marketing shares through web based mostly. An exchange, equity market or share market is that the aggregation of patrons and sellers of stocks (also known as shares); these could embody securities listed on a exchange additionally as those solely listed in private. This analysis paper contains what's on-line stock mercantilism, however on-line stock mercantilism developed, growth of on-line stock mercantilism, benefits and drawbacks of on-line stock mercantilism, challenges involve in on-line stock mercantilism. my objective of study is to analyse growth of on-line stock mercantilism and issues and challenges involve in on-line stock mercantilism. once the net arrived, it revolutionized mercantilism by introducing electronic markets and automatic order execution. This resulted in lower fees, additional economical markets, and bigger info and transparency for investors. offer is that the variety of shares individuals need to sell, and demand is that the variety of shares individuals need to buy. If there's a bigger variety of patrons than sellers additional demand, the patrons bid up the costs of the stocks to provoke sellers to sell additional. The exchange may be a complicated, interconnected system composed vast {of enormous} and tiny investors creating uncoordinated choices a couple of huge sort of investments. The market may be construed as Associate in Nursing system organized by Associate in Nursing invisible hand of the market. every market participant acts and plays freely supported their individual concepts and following their own personal interests. "The market" is shorthand for the collective values of people and corporations. There are basic economic principles which will facilitate justify up and down market movements, and with expertise and knowledge, there are additional specific indicators that market specialists have known as being important.

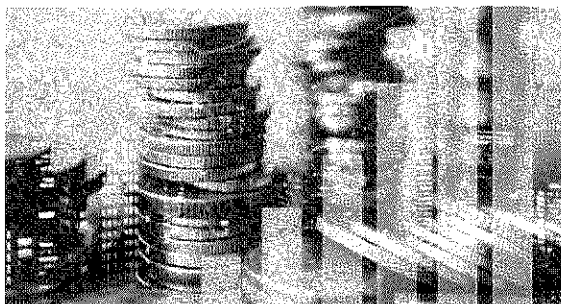
**I. About How IT helped in investment:** Whether you are investing in stocks, property, precious metals or other markets, there will always some risk involved. While there is no hidden formula for ensuring your investment is guaranteed, there have been many advancements in technology in recent years which assist wealth managers, brokers and investment bankers in making the best, low-risk, decisions for their clients. One of the biggest developments in recent years has been the application of data in the financial markets. Electronic data systems gained prominence in the finance sector back in the 1960s when machines like the Quotron began to deliver electronic stock market quotations directly to users. Suddenly brokers, traders and investors alike could monitor prices quickly and efficiently – moving on from ticker-tape machines and phone calls. Over the years, this technology evolved into high frequency Big Data

analysis, which has now become the norm in finance. It helps investors to find efficiencies in places they either did not think of nor could gain access to, giving them the opportunity to go from a hunch to a more calculated decision. Property is one of the most potentially profitable areas to invest in for any individual or corporation's portfolio and new technology, which is now unfolding in this area, will allow for even higher profits to be made with greater precision. By utilising Big Data and artificial intelligence (AI), property investors are now able to more effectively spot trends, such as where property is most in demand, most needed and most likely to increase in value. In effect, they are taking uncertainty out of the investment decision. Data systems allow investors and developers to have a clear understanding of the market in minute detail. They will be able to identify specifics, such as where people are moving, recognise which office spaces and utilities are being used and how prices are shifting. This influx of information in the market will subsequently provide greater security around the 'buy side' of a transaction. Peer-to-peer platforms are also now allowing individual investors to make the most of their money, with companies helping people to invest in new and existing property loans. These platforms make it easier to get a loan and secure finance for an investor who is at risk of losing out on a deal. This advance in technology will help investors with illiquid assets make the most of their investment, by providing both clarity and speed to the decision-making process. A more recent technological advancement in the arts world is the use of virtual reality to aid the selling of paintings. While this has been trialled more widely in the selling of real estate, its application to the world of arts and antiquities is still a relatively new one. Sotheby's London based auction house created a 360-degree VR film for their surrealist sale in March 2017, allowing prospective buyers to step into the surrealist pieces before deciding to buy. Four separate VR programmes showcased the four-key works, including Salvador Dalí's *Moment de Transition*, which was estimated to be worth £6.8m. Galleries and museums are already adapting to the digital era, and it seems art auctioneers are following suit. This option gives art connoisseurs more scope in their portfolio by allowing them to see pieces which are overseas in close detail, reducing the chances of a good deal being missed. Another platform is also having an impact by allowing investors to make better decisions around the value of a piece of art. By taking into account the artist's career, the year the piece was created and an analysis of art auction results, it helps to predict the risk and return on investment. Within the financial world, the biggest technological advancement has been the development of robotic-advisers, which has given investors the opportunity to

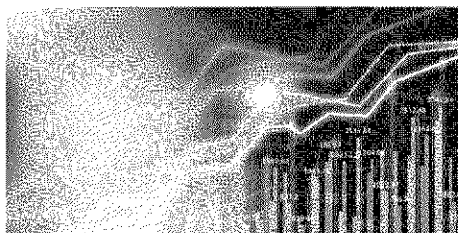
consult detailed data and information before making decisions at the touch of a button. Platforms have developed in this remit, focusing on providing their customers with around the clock access to their investments, full clarity and transparency without having to consult a wealth of advisers during working hours. While robotic-advisers have helped advance an individual's investment decisions, blockchain has made recent leaps for large scale investment bodies, with Forbes calling it "Wall Street's most game changing technology since the internet". The technology, which has become famed for its relation to bitcoin, provides a secure and transparent way to digitally track the ownership of assets before, during and after transactions and its numerous benefits have the potential to transform the trading floor and lead to intense, high-risk trading becoming safe, secure and ultimately faster. One of the greatest benefits to come from blockchain is the network effect it creates – the more that participate in its use, the greater the value of the network, so the quicker it is enforced and the faster the returns. While some of the technology discussed is in its early stages, its potential on the investment market is huge. As we enter the dawn of AI and machine learning, investment technology will only get more intuitive and more effective. Whether it is through blockchain or Big Data, investors are becoming more empowered to take better control of their assets and make more informed decisions. Investment will always entail an element of risk, but by using the right technology, the risk becomes a more calculated one. Over the years, this technology evolved into high frequency Big Data analysis, which has now become the norm in finance. It helps investors to find efficiencies in places they either did not think of nor could gain access to, giving them the opportunity to go from a hunch to a more calculated decision. Technology enables new pricing models and products to be delivered to the market. The Investment Banking industry thrives on the flow, analysis, and interpretation of information and technology is often the edge that gives a bank competitive advantage.



**II. Technology's need in Investment:** What investors look for in a technology investment. Investors seek profitable market opportunities with a technology business that is based on a product or service that solves real customer problems. Over the years, this technology evolved into high frequency Big Data analysis, which has now become the norm in finance. It helps investors to find efficiencies in places they either did not think of nor could gain access to, giving them the opportunity to go from a hunch to a more calculated decision. One way to invest in the technology sector is via technology-based exchange-traded funds (ETFs). According to the Morningstar database, there are 75 ETFs in the technology category. The Vanguard Information Technology ETF (ticker VGT) is the largest ETF in this category.



**III. How Technology makes investment easier let's see:**



Section 510(a) of the National Securities Markets Improvement Act of 1996 directed the Commission to study and report to Congress on the impact of technological advances on the securities markets. Pursuant to that provision, this report discusses the impact of recent technological advances on the securities markets, how these advances have changed the way the markets operate, and steps the Commission has taken to address these changes. The use of new technologies at this time varies considerably in nature and scope among different segments of the industry, and the report separately addresses the current trends in technology use by public companies, the mutual fund industry, investment advisers, and the secondary markets. Finally, the report discusses the effect of recent technological advances on enforcement of the federal securities laws.



- The Commission is mindful of the benefits of increasing use of new technologies for investors and the markets, and has encouraged experimentation and innovation by adopting flexible interpretations of the federal securities laws.
- The Commission's approach has balanced the goals of promoting the benefits of electronic media, with the need to protect investors and the integrity of the markets from fraud and abuse.
- As technological advances proceed, continued coordination with market participants and federal, state and international regulators will be essential.

### **Public Companies**

- Many investors now have improved access to information about securities, partly through use of the Internet.
- Today, most domestic companies make their filings in an electronic format on the Commission's EDGAR (Electronic Data Gathering, Analysis, and Retrieval) system. The ready access to this database made possible by the Internet, both through the Commission's own web site and others, forms the core of a new body of corporate information now available on-line.
- Many public companies now publicize business and financial information on the Internet, but few as yet use the Internet or other electronic media to meet delivery and disclosure requirements under the federal securities laws.
- Developing communication technologies hold the promise of making the capital markets more efficient by providing all participants with faster, more effective means of exchanging information.
- The Commission has provided guidance to facilitate the use of electronic media for companies to satisfy their disclosure obligations:
- The Commission's October 1995 and May 1996 interpretive releases provided guidance for market participants on using electronic media to satisfy delivery obligations of disclosure documents.
- The Commission staff has provided interpretive guidance regarding applications of technology to market practices.
- The Commission staff also addresses electronic issues on a case by case basis as they are raised by market participants.

- The Commission also has begun an initiative to re-examine basic federal securities law principles partly in response to technological advances. In July 1996 the Commission published a concept release on Securities Act registration and disclosure reform which sought comment from the public about broad reform of the capital formation regulatory framework.
- The Commission's regulatory authority, including the exemptive authority in the National Securities Markets Improvement Act of 1996, will allow the Commission to adapt the federal securities law framework to keep abreast of -- and realize the potential benefits of -- new technological developments.

### **Investment Companies**

- Investment companies are now electronically providing a substantial amount of information and services to a large number of investors, particularly via the Internet.
- Investors, in turn, are taking advantage of the enormous amount of information that is available electronically from investment companies, and are making additional demands for increased electronic information flow.
- The Commission has facilitated the investment company industry's use of many technological innovations that serve investors more efficiently, consistent with investor protection.

### **Investment Advisers**

- New computer technologies, and increasing access to the Internet, have the potential to affect investment advisory services substantially in the next century.
- Many investment advisers are taking advantage of the extensive information that is available electronically to research potential investments for their clients.
- As investors have become more comfortable with using their personal computers, some advisers have begun to provide advisory services on-line, creating a new medium for their services.
- The Commission has provided guidance regarding a variety of legal issues created by the use of new technologies by investment advisers, and the Commission will continue to facilitate the future use of such technologies, consistent with investor protection.

### **Secondary Markets**

- As computing power has become exponentially more powerful and comparatively inexpensive, technology has transformed trading in secondary markets.
- The Exchanges and Nasdaq have adopted electronic systems for order delivery and automatic execution and have automated other functions such as the dissemination of transaction and quotation information, specialists' limit order books and the comparison of trades prior to settlement.
- Broker-dealers and institutional investors use powerful computer systems and sophisticated applications, among other things, to manage inventory, order flow and risk and to receive market data, research reports and company information electronically.
- For most markets and market professionals, the Internet and Internet technology should enhance communications networks already in place.
- For individual investors, the Internet can provide information flow and communication links similar to those currently available to institutional investors and market professionals.
- Technology also has made possible the development of efficient electronic systems for trading securities off the established securities markets.
- The Commission has begun an effort to ensure a regulatory framework that will integrate regulation of these alternative trading systems into the mechanisms that ensure market transparency, fairness, and oversight.
- The Commission also has adopted rules that permit markets and market participants to make use of technology, and has modified other rules or interpretive positions that might conflict with technological innovations.

### **Enforcement**

Recent technological advances, particularly Internet-related forms of communication, have presented new challenges in the Commission's effort to combat fraud.

- The Commission is responding to attempts to use the Internet to perpetrate securities fraud through an evolving program of education, surveillance and litigation.
- Coordination and cooperation with other federal and state regulators and the self-regulatory organizations are part of this program.

- Because the Internet provides an easy method for cross-border communications, abuses of the Internet emphasize the need for coordinated activities with foreign securities regulators.
- The staff works closely with other agencies, both foreign and domestic, to promote fair and efficient markets and to protect investors.

Technology is shaping many different areas of the world, it is speeding up manufacturing, improving our quality of life, making many aspects of life more efficient and effective. One area that has been revolutionized by the advances of technology itself is the financial markets and the stock market. There are several ways how technology has changed and shaped the current state of the markets, and also the future direction. Firstly, ease of use, through technology it is now easier than ever to trade on the stock market, secondly speed, making transactions is faster than ever, and finally depth of information. Apps like Robin-Hood Trading has made it easier than ever to access stock market trading. By being a technology driven brokerage they are able to operate with substantially less overheads seeing a significant reduction in fees. These fees often make casual traders be turned off the idea of the stock market, as low amounts they want to invest will not be worthwhile after paying the various fees to most companies. This has seen a new type of trader, with a lower amount of wealth be able to effectively utilize the markets.

Additionally since it is an app that is available on smartphones, it allows for people to trade anytime and anywhere. This means people are a lot less restricted in trading, and may encourage more people to trade as it is easier than ever. This unrestricted method opens up a wide range of possibilities, and overtime, may influence the way trades are conducted.

Also there are several different types of software and websites that offers free trading. Effectively allowing you to play with “pretend” money to give you a learning experience. This is simpler than ever to use and can easily help you track investments and give you a good immersive experience before risking your own money.

Trade in stock markets means the transfer for money of a stock or security from a seller to a buyer. This requires these two parties to agree on a price. Equities (stocks or shares) confer an ownership interest in a particular company. Online trading is the act of placing buy/sell orders for financial securities and/or currencies with the use of a brokerage's internet-based proprietary trading platforms. The use of online trading increased dramatically in the mid- to late-'90s with the introduction of affordable high- speed computers and internet connections. The act of buying and selling international currencies, futures, stocks, bonds and other financial

instruments through the Internet. Online trading generally requires an online trading platform offered by most online brokers for order execution. Online stock trading means buying and selling shares through internet based. A stock market, equity market or share market is the aggregation of buyers and sellers of stocks (also called shares); these may include securities listed on a stock exchange as well as those only traded privately. This research paper contain what is online stock trading, how online stock trading developed ,growth of online stock trading , advantages and disadvantages of online stock trading, challenges involve in online stock trading. My objective of study is to analyze growth of online stock trading and problems and challenges involve in online stock trading. Trade in stock markets means the transfer for money of a stock or security from a seller to a buyer. This requires these two parties to agree on a price. Equities (stocks or shares) confer an ownership interest in a particular company. Online trading is the act of placing buy/sell orders for financial securities and/or currencies with the use of a brokerage's internet-based proprietary trading platforms. The use of online trading increased dramatically in the mid- to late-'90s with the introduction of affordable high-speed computers and internet connections. The act of buying and selling international currencies, futures, stocks, bonds and other financial instruments through the Internet. Online trading generally requires an online trading platform offered by most online brokers for order execution. Online stock trading means buying and selling shares through internet based. A stock market, equity market or share market is the aggregation of buyers and sellers of stocks (also called shares); these may include securities listed on a stock exchange as well as those only traded privately. This research paper contain what is online stock trading, how online stock trading developed ,growth of online stock trading, advantages and disadvantages of online stock trading, challenges involve in online stock trading. My objective of study is to analyze growth of online stock trading and problems and challenges involve in online stock tradin Trade in stock markets means the transfer for money of a stock or security from a seller to a buyer. This requires these two parties to agree on a price. Equities (stocks or shares) confer an ownership interest in a particular company. Online trading is the act of placing buy/sell orders for financial securities and/or currencies with the use of a brokerage's internet-based proprietary trading platforms. The use of online trading increased dramatically in the mid- to late-'90s with the introduction of affordable high- speed computers and internet connections. The act of buying and selling international currencies, futures, stocks, bonds and other financial instruments through the Internet. Online trading generally requires an online trading platform offered by most online brokers for order execution. Online stock trading means buying

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#### **IV. Bibliography**

From the following sites have helped me to make this project:

1. Mi9retail.com
2. wallstreet.com
3. www.secgov.com
4. www.bdc.ca

## 12. Importance of it in Teaching Field

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**Rahul Chaudhary**

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### **Abstract**

This research paper tells us about the importance of IT in Teaching, what are advantage and disadvantage of IT in Teaching, for what purpose do we need it There are factors that cause us to use technology in teaching, as well as the importance of school culture in the use of technology in education. This review analyzes gaps in the literature and suggests directions for future studies to address these gaps.

**Keywords** – Education, Environment, Information and Communication Technology.

### **I. Introduction**

Technology provides students information accelerates learning and gives tons of opportunities. It has introduced some of the very important changes in different fields like entertainment, economy and also education The various interactive methods that are available to us thanks to technology, make the entire learning process not just interesting but easier for the kids also to hook on to subjects and understand them as well. belong to an era, as our world is changing constantly technology has become a huge part of our life which is breeding and living on technologies like Facebook and Wikipedia. There is no way that we can stop our children from being on these platforms as well. So what is the way out? Thus use of technology in education is beneficial to all.

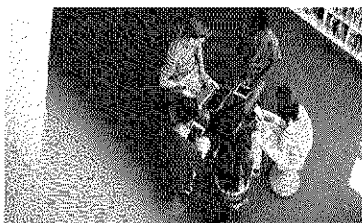
#### **A. Why is it important?[1]**

Many of today's jobs are highly depended on technology. It can definitely help education professionals in the monitoring of individual development and innovative lesson planning. The use of digital tools can increase a student's engagement and it is also very helpful for teachers.

Why Do Students Need Technology in the Classroom?[1]

- The educational resources are easy to access.

As a result of the importance of technology to students in their daily lives.



Outside of school hours, kids routinely use their smartphones and tablets, and they should be trusted with that responsibility during the school day as well. Many people believe that by employing a familiar tool for academic learning, it helps pupils stay focused in class.

- It enhances the learning experience of students.

Teachers can build more imaginative and inventive lesson plans to hold the attention of their pupils if they take the effort provide cutting-edge technology to students, such as artificial intelligence.

- Students can go on by learning with their own pace.

The use of technologies increases the learning process. They facilitate online learning and distance learning, and they enable access to current information. They allow researchers to do more research on subjects that are more difficult to comprehend, since each learner processes information differently.

- This will be extremely helpful for students as they prepare for their careers.

Technology these days is been regularly in different industries in a wide range so providing students with latest technologies earlier is very helpful for themselves and their surroundings. It can also enhance class interaction by encouraging collaboration of differing learning styles.

- Students demand it.

As we all know that students regularly use technologies in their day to day life. Students will feel more confident about themselves if we present new ideas or subjects using methods they've already mastered. They can also inspire their friends. to learn new things and develop a skill set for themselves

### **Pros and Cons [3]**

#### **List of the Advantages of IT in Teaching.[3]**

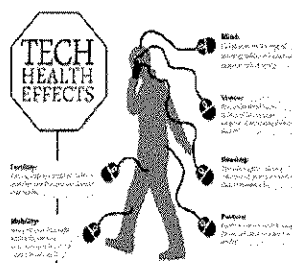
- Technology keeps students motivated.
- It helps parents and teachers to interact more.



- It is quite affordable in classrooms
- Helps students to learn in different ways.
- It helps students to prepare for their future.
- It encourages students to increase collaborations with each other

### **List of the Advantages of IT in Teaching.[3]**

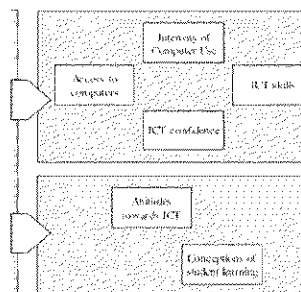
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- Helps students to learn in different ways.
- It helps students to prepare for their future.
- It encourages students to increase collaborations with each other



### **III. Factors Influencing the Use of Ict[4]**

A number of studies conducted in the last few years have demonstrated the value of information and communication technology for enhancing educational opportunities, but most teachers do not abuse this technology as a form of instructional delivery. system nor integrate technology into their curriculum. Studies reveal a number of factors influencing teachers' decisions to use ICT in the classroom: non-manipulative and manipulative school and teacher factors. For starters, teachers may establish policies based on skewed or incorrect theoretical interpretations and understandings of ICT use. Second, due to their other competing ideas, teachers may be under pressure to cover all information and unwilling or hesitant to allow pupils to spend more time researching content on their own with technology. These problems suggest that teachers' ideas may not be reflected in their actions. Teachers may be discouraged from using technology into their classes by a school culture that emphasises competition and a high-stakes assessment system. As a result, teacher beliefs have an impact on ICT use in the classroom. Teachers may be discouraged from using technology into their classes by a school

culture that emphasises competition and a high-stakes assessment system. As a result, teacher beliefs have an impact on ICT use in the classroom. These problems suggest that teacher ideas may not be reflected in their actions.



### Conclusion [5]

Information technologies are the result of knowledge explosion. These include hardware & software technologies and facilitate teaching learning process. Because of the use of technology in education a lot of the learners across the globe can connect with each other they are free to learn anything of their choice and having total access of all the resources and materials necessary for them. The first problem is that teachers may implement policies based on a limited understanding of or interpretations of ICTs. The second problem is that teachers may be pressured to cover all content and unwilling or hesitant to let students have time to explore content independently. The second concern is that teachers are under pressure to cover all content and are unwilling or hesitant to let students spend more time exploring the content themselves with technology because of their other conflicting beliefs. These issues show that teachers' intentions aren't always reflected in their actions. A school culture that emphasises competition and a high-stakes assessment system may deter teachers from incorporating technology into their lessons. As a result, teacher attitudes can have an impact on classroom ICT use.

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## 13. Importance of IT in Teachingfield

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Information and communications technologies (ICT) are scientific, engineering, and management disciplines and techniques used in handling, managing, and analyzing information (UNESCO, 2002). ICT stands for Information and Communication Technologies. ICT is a part of our lives for the last few decades affecting our society as well as individual life. ICT which is now broadly used in educational world. Every person associated with education makes use of ICT, whether they are teachers, students, administrators, or any other group. Teachers use ICT to make the teaching and learning process easier and more enjoyable. A competent teacher has several skills and techniques for providing successful teaching. As a result, teachers with knowledge of ICT and Science & Technology skills need to be developed and increased. In modern science and technological societies education demands more knowledge of teacher regarding ICT and skills to use ICT in teaching –learning process. The knowledge of ICT also required for pre-service teacher during their training programmer, because this integrated technological knowledge helps a prospective teacher to know the world of technology in a better way by which it can be applied in future for the betterment of the students. Now-a-days ICTs are giving schools and classrooms a new look by introducing new curriculum focused on real-world projects that focus, providing learning tools, and offering faculty and learners with much more opportunities and support for feedback. ICT also facilitates communication between teachers, students, and parents. Continuous and Comprehensive Evaluation (CCE) encourages students and teachers to employ more technology to make teaching and learning more appealing to our future generations. Teachers must be knowledgeable about the usage of ICT in their subject areas in order to assist students in learning more successfully. So, the knowledge of ICT is very much essential for the both prospective teachers as well as in-service teachers also. Teaching with technology in the classroom will be easier with this course The purpose of this paper was to discuss the importance of information technology in teaching.

**Keywords:** ICT, technology, pre-service, in –service, student teacher, teacher training.

## **I. Introduction**

Today's age of 21st Century and it is also the age of information and technology (IT). Science and technology touch every aspect of our lives. Throughout the world, there is an enormous flow of information. Information and technology now are extensively used within educational settings to make teaching and learning increasingly successful and pleasurable for both students and faculty. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools, teacher educational institutions. For all students to achieve high academic standards, teachers must know and understand how to use new digital tools. The extent to which ICT is integrated into teacher education programs determines the quality of professional development. UNESCO (2002) has defined information and communication technology as "a scientific, technological, engineering and management discipline and management technique utilized by society to handle information, connect it to social, economic and cultural issues."

Technologies play a critical role in the training of teachers, who are at the core of any living society. Students" accesses knowledge and information through TV, digital media, cable network, internet and social media i. e. Facebook, Twitter, WhatsApp, LinkedIn, Igo, Line, WeChat etc. In the twenty-first century, ICT is critical for preservice teacher education programs. Without sufficient ICT expertise, a teacher cannot function in his or her classroom and cannot be considered complete.

## **II. Need and Significance of the study**

The scenario of the classroom is changing. There is a technological gap between the progress of the society and instructional activities of the teacher in the classroom. If we see in our society on the one hand technology has revolutionized our society and on the other hand the teaching learning activities at school level have remained so far away from technology. In our classroom, knowledge is delivered by the instructor in a traditional manner, with a teacher-centered approach mode which is most of the time boring and not to gain interest to the student. However, education in the twenty-first century is centered on the student. Students learn from a variety of sources, which is why ICT and multimedia are so important in the educational sphere, and teachers must also be knowledgeable in these areas. As a result, the current study is critical and important since it demonstrates the need of ICT teacher education.

**Why do we use ICT in teacher Education?**

The classroom is now changing its look from the traditional one i. e. from one way to two-way communication. Teachers and students now take part in classroom discussions. Now Education is based on child centric education. So, the teacher should prepare to cope up with different technology for using them in the classroom for making teaching learning interested. To effectively implement some student-centered methodologies such as project-based learning that puts students in the role of active research and technology becomes the appropriate tool. ICT has enabled better and swifter communication; presentation of ideas more effective and relevant way. It is a valuable tool for information acquisition. Students are therefore encouraged to search for information from multiple sources and they are now more informed than ever before. This is why ICTs are essential for teacher education.

**III. Recent Trends in Teacher Education**

In light of the evolving needs of our society, emphasis is also placed on the various educational theories and practices. These theories and practices also point to changes in teacher training. Teacher training naturally involves new technologies. Teachers should also know the right attitudes and values, besides being proficient in skills related to teaching. As we know the minimum requirement of any training programme is that it should help the trainee to acquire the basic skills and competencies of a good teacher. Nowadays, the new trends in teacher training are the interdisciplinary approach, correspondence courses, orientation courses, etc. Simulated teaching, micro-teaching, programmed teaching and team teaching are also used to train teachers. Now-a-day action research is also being implemented in teacher training. ICT provides access to the world of information and helps teachers to keep up to date. Innovatory trends in teaching methods, evaluation mechanisms, etc. for professional development.

**IV. Different Strategies for applying ICT in Teacher Education**

- i. Providing adequate infrastructure and technical support.
- ii. Applying ICT in all subjects.
- iii. Applying new Pre-service teacher Education curriculum.
- iv. By using application software, using multimedia, Internet e-mail, communities, understanding system software.

**V. Importance of IT in teaching filed**

1. ICT supports teachers in the initial and continuing training of teachers.
2. ICT helps teachers to interact with students.
3. This helps them to prepare for their education, to provide feedback.
4. ICTs also help teachers access institutions and universities, the NCERT, the NCTE and the NAAC TOU, etc.
5. It also makes it possible to effectively use ICT software and hardware for teaching – learning process.
6. It contributes to the improvement of teaching skills, supports innovative teaching. It helps in effectiveness of classroom.
7. It also helps to improve professional development and educational management and to improve the active learning of trainee teachers.
8. It is now replacing the ancient technology. As we now know, a student of one day always has a competitive spirit. Thus, the professor must be knowledgeable about the subject. This can be done through ICT.
9. ICT helps teachers in preparation for teaching. In order to introduce ICT into the initial training of teachers, various methods and strategies are used. Various tools are used such as word processors, databases, spreadsheets, etc. A variety of technology-based plans are employed to assist teachers in teaching their practice.
10. The ICTs prepare the teacher to utilize his skills in the real situation of the classroom and also make students for their future profession and social life.

**VI. Conclusion**

Teaching occupies an honorable position in the society. ICTs help teachers update new knowledge, skills for using new digital tools and resources. Through the use and acquisition of ICT knowledge, student teachers will become true teachers. ICT is a key factor in the rapid evolution of our society. It can change the nature of education and the roles of pupils and teachers in the educational learning process. Teachers in India have now begun to use technology in the classroom. Laptop computers, LCD projector, desktop computer, EDUCOM, smart classrooms, memory sticks become common media for teacher training establishments. So, we should use Information Technology in Teacher Education because now teachers only can create a bright future for students.

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## 14. Work from Home

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### **Abstract**

We study productivity before and during the working from home [WFH] period of the Covid-19 pandemic, using personnel and analytics data from over 10,000 skilled professionals at a large Asian IT services company. Hours worked increased, including a rise of 18% outside normal business hours. Average output declined slightly, thus productivity fell 8-19%. We then analyze determinants of changes in productivity. Employees with children at home increased work hours more and had a larger decline in productivity than those without children. Women had a larger decline in productivity, while those with longer company tenure fared better. An important source of changes in WFH productivity is higher communication and coordination costs. Time spent on coordination activities and meetings increased, while uninterrupted work hours shrank considerably. Employees communicated with fewer individuals and business units, both inside and outside the firm. They also received less coaching and 1:1 meeting with supervisors. The findings suggest key issues for firms to address in implementing WFH policies.

**Keywords:-** Collaboration, Coordination, Covid-19 Pandemic, Productivity, Remote Working, Telecommuting, Working From Home, Work Hours, Work Time

### **1. Introduction**

Working from Home [WFH] has been rising for years, as more occupations use computers and telecommunications, more people have reliable home Internet connections, and more families have both parents working full time. The Covid-19 pandemic accelerated this process by forcing a large fraction of the global workforce to switch to WFH at least temporarily. Compared to Working from the Office [WFO], WFH has the potential to reduce commute time, provide more flexible working hours, increase job satisfaction, and improve work-life balance. However, little is yet known about some of the more fundamental consequences of WFH, including its effects on productivity and which factors play a role in making WFH more or less productive than WFO (WSJ, 2020; Financial Times, 2021b). In this paper we provide an analysis of the effects of WFH in a large Asian IT services company. The company abruptly switched all

employees from WFO to WFH in March 2020, in response to the largely unanticipated pandemic shock. Our study has several novel and interesting features. The industry and occupations analyzed here are among those predicted to be most amenable to WFH. The employees are highly-skilled professionals in an information technology company where a high degree of work has always been computer driven. At the same time they are some of the most difficult to analyze. The jobs involve significant cognitive work, collaboration on teams, working with clients, and innovation. Productivity is hard to measure for such professions. WFH for occupations with such characteristics has not previously been studied with non-survey data. For a panel of over 10,000 employees and a period of 17 months including both WFO and WFH, we obtained unusually rich data from the company's personnel records and workforce analytics systems. These include each employee's key output and work hours, which provide a natural measure of productivity. For a sub-sample, the firm provided data on how employees allocated time between work tasks. This includes meetings, collaboration and time focused on performing work without distractions. It also includes information on networking activities (contacts) with colleagues both inside and outside the firm. We also have employee experience, tenure, age, commute time (for WFO), gender, and the number of children at home. These data provide a unique opportunity to obtain a measure of productivity for this complex type of work, and to investigate the determinants of productivity during WFH. We analyze how WFH productivity varied by employee characteristics, whether or not children were at home, and commute time. We also analyze how it varied with the nature of the work: the extent of collaboration, networking, supervision and coaching. Our analysis of the productivity differences between WFH and WFO provide valuable insights about the issues that are likely to be most important when designing future WFH schemes. Our findings are presented in two parts. We first analyze how average work time, output, and productivity changed during WFH. With that foundation, we then analyze what drives those changes and which employees are more affected. We consider the role of both employee and job characteristics and study extensively changes in working patterns induced by WFH. We find that employees significantly increased average hours worked during WFH. Much of this came outside of normal office hours. At the same time, there was a slight decline in output as measured by the employee's primary performance measure. Combining these, we estimate that productivity declined by 8-19%. These results are consistent with employees becoming less productive during WFH, and working longer hours to try to compensate. Employees with children at home had a greater decline in productivity than those without, but even those without suffered productivity losses. Moreover, women were more

negatively affected by WFH than men, but this gender difference was not due to the presence of children in the home. We conjecture that it might be due to other demands placed on women in the domestic setting while working from home.<sup>1</sup> Employees with lower company tenure decreased output slightly during WFH, whereas output remained about the same for those with longer tenure. This is separate from age or experience effects. This suggests that employees who are more adapted to firm culture and processes are better able to perform in WFH, where there is no colleague at the next desk for quick help or advice. WFH also affected working patterns in substantial ways. Employees spent more time participating in various types of meetings, but less time in personal meetings with their manager or receiving coaching. They engaged in fewer contacts with colleagues inside and outside of the firm. At the same time, they had less “focus time,” i.e., uninterrupted time to perform tasks. All of these factors were significantly correlated with the productivity changes due to WFH. These were not temporary adjustments to a switch to WFH, but persisted over time. These findings suggest that increased coordination costs during WFH at least partially explain the drop in productivity. A potential concern is that the pandemic affected estimates of productivity changes during WFH. However, several pieces of evidence suggest that this is not a major concern. First, the effects on work time and productivity begin immediately at the move to WFH, not gradually as the pandemic developed. Second, the decline in productivity is also observed among employees without children at home, though to a lesser degree, so the detrimental productivity effects are not solely driven by school closures. Third, changes in work time and productivity do not correlate with the evolution of the pandemic, such as the rate of infections or easing of lockdown measures. Fourth, there is a decline, not an increase, in sick days during WFH. Finally, as with many information technology firms, the company’s economic performance was quite strong throughout the pandemic, so employees were not at more risk of job loss. The evidence presented below provides important insights into how WFH may vary across different types of occupations and firms employing a blended WFH / WFO approach. Our analyses indicate that communication, coordination and collaboration are more costly in a virtual work setting. This is likely to present a significant challenge to WFH in occupations where such aspects are important, especially for less experienced employees

## **2. Literature**

Our research contributes to a broad agenda in economics trying to understand determinants of individual productivity. A significant amount of work has focused on incentive pay (e.g., Lazear, 2000; Hamilton et al., 2003; Shearer, 2004; Babcock et al., 2015; Friebel et al., 2017; Aakvik et al., 2017; Dohmen and Falk, 2011). Some research looks at effects of other

human resource practices, particularly those aimed at eliciting employee participation in continuous improvement, and on complementarities between these policies (Ichniowski et al., 1995; Ichniowski and Shaw, 2003; Bartel et al., 2007). There is limited research in other areas, such as ways to engage employees in innovation (Gibbs et al., 2017). Some literature studies the effects of supervisors (Lazear et al., 2015) or peers (Bandiera et al., 2005; Arcidiacono et al., 2017; Song et al., 2018). Presumably peer effects would be weaker during WFH as there is no face-to-face interaction and probably less overall interaction. Supervisor effects might be stronger, if managers vary significantly in their ability to lead and coordinate virtual teams. A growing literature analyzes working from home policies. At the start of the pandemic, a few papers predicted the likelihood that a job would shift from WFO to WFH, typically using descriptions of occupations in classifications such as O\*NET (e.g., Dingel and Neiman, 2020; Adams-Prassl et al., 2020). The industry and occupations analyzed here are among those predicted most likely to effectively switch to WFH. Several surveys document incidence of WFH, and perceptions of its effects (Bick et al., 2020; Brynjolfsson et al., 2020; Von Gaudecker et al., 2020; Gottlieb et al., 2021; Hensvik et al., 2020). Professionals, managers, knowledge workers, those in clerical support or data processing, and those with higher education or income make more use of WFH. In the UK Household Longitudinal Survey, employees who work from home state that they are about as productive as in the office (Etheridge et al., 2020). Those who perceive declines also experience lower levels of well-being from WFH. Bellmann and Hubler (2020) find that working remotely has no long-run effect on work-life balance, and that a switch to WFH increases job satisfaction only temporarily. Barrero et al. (2020) estimate that WFH reduced total commuting time among US workers by more than 60 million hours per work day at the height of the pandemic, and that about 35% of this time saved was reallocated to work.

We do not find that commute time predicts increases in WFH work hours. Barrero et al. (2021) provide evidence from waves of a large panel of US employees working from home. Respondents report benefits from lower commute time, more flexible work hours, and increased productivity. Employers have made investments in technology, revised practices, and moved up the learning curve with respect to WFH. They suggest that use of WFH will remain four times more prevalent than before the pandemic. DeFilippis et al. (2020) use communication and email meta-data. Their estimate that WFH employees work 0.8 more hours per day is between estimates from our two time measures. They also find that employees attend more meetings, with more attendees. Teevan et al. (2020) present similar evidence for Microsoft employees. Kwan (2021) analyzes reading of Internet content by employees in a very large sample of firms in ten

countries. He uses IP addresses to identify when employees WFH, and creates proxies for employee interactions and need for coordination. These proxies are negatively associated with a shift to WFH. Survey data on productivity might be biased if employees enjoy WFH and hope to retain the practice, conflate output with productivity, or refer to individual performance without full consideration of collaboration with others. Only a few papers have studied WFH using employee data. Bloom et al. (2015) analyzed call-center employees at a Chinese firm. Output rose for those assigned to WFH, partly because they worked more hours, and partly because productivity increased. Employee satisfaction increased, and attrition declined. Emanuel and Harrington (2021) studied call-center workers at a large

US company, including those who abruptly moved to WFH in response to Covid-19. Productivity rose in the switch to remote work. However, average productivity was lower for remote workers than office workers. They conclude that remote work has an adverse selection effect, and more productive workers prefer to be at the office. WFH may be relatively effective for call-center workers, who work independently and follow scripts. Kunn et al. (2020) analyze an occupation with extremely high cognitive demands but no collaboration: professional chess players. They had lower quality performance when playing online during Covid-19, compared to in-person tournaments. Of course, the highly unusual occupation makes it difficult to generalize from their findings. A policy that goes beyond WFH is Working from Anywhere [WFA], in which an employee is allowed to choose where they live and work. This might provide additional benefits in quality of life, managing a dual-career couple, or real estate prices. Choudhury et al. (2019) study a natural experiment in which examiners at the US Patent and Trademark Office were allowed to work from anywhere. Productivity rose by 4.4%, with no decline in the quality of work. However, they note that these jobs do not require significant collaboration and coordination. None of these studies were able to analyze potential mechanisms underlying differences in productivity between WFH and WFO. This study is, to our knowledge, the first that is able to provide evidence on this question.

### **Conclusion**

In this paper we have presented the most detailed analysis of WFH productivity changes for knowledge workers. The paper makes a number of significant contributions. We study an occupation that is expected to be amenable to WFH, but involves significant cognitive, collaborative and innovation tasks. The data provide an unusually high quality measure of employee productivity for knowledge workers. The breadth of the data allow for the first thorough analysis of determinants of WFH productivity. We provide evidence on how WFH

productivity varies with employee characteristics, presence of children at home, and WFO commute time. We also use detailed data on how employees spend their work time to study the effects of job characteristics on WFH productivity. These latter results are important, since they provide insights into how the effectiveness of WFH may vary, and key issues for firms to consider in deploying WFH. In our sample, employees were able to maintain similar or just slightly lower levels of output during WFH. In order to do so, they worked longer hours. Despite this, employees had less focus time to perform tasks, and the net effect was a drop in productivity. It would be interesting to see if this change is sustainable, especially in light of evidence of the adverse effect of long work hours on employee well-being, and mental and physical health (Sparks et al., 1997; Sokejima and Kagamimori, 1998; Sparks et al., 2001).

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## 15. Increase in Online Stock Market

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### **Abstract**

Nearly two billion people are connected to the Internet. During the last twenty years, the technology revolution has had an intense and irreversible impact on the world and Indian stock market has also witnessed these changes. From its formal inception in the 19th century, the Indian capital market has come a long way and can be said to be in a maturity stage, backed by a developed legal system. The internet has made financial products and services available to more customers and eliminated geographical barriers. Earlier investors were solely dependent on their brokers but nowadays they are participating more in buying and selling of shares with the help of internet. E-trading has saved time, energy and money as it helps to access the market from any where at any time. The primary objective of this research paper is to analyze the impact of internet growth on the stock market transactions. The paper also discusses the current state of internet trading in India and particularly the scope of online trading market available in India.

**Keywords:-** Indian Stock Market, Internet, Online Stock Trading.

### **I. Introduction**

India was introduced to the Internet in the early 90's and the use started to increase rapidly. India stands 5th in the list of countries by number of internet users. The Stock markets introduced Internet trading (online-trading) in February 2002 which has brought a tremendous change in trading. The National Stock Exchange started the first form of online trading wherein user/investors can buy/sell stocks in a day without much paper work. Earlier it used to take around 60 days to buy/sell stocks in stock markets and the investor also had to go through loads of paper work. But thanks to Internet the wait has curbed and in the last ten years, Indian capital markets have recorded 1488% of growth in exchange turnover.

### **II. Stock Trading in India.[2]**

It seems like an unnecessarily complicated process for moving money. But the blockchain has its advantages. With traditional methods of payment every transaction in the

world is registered on privately-held databases owned by corporate and state entities. These databases are not accessible by the public and therefore closed. They are also usually owned by one entity. Because of this nature, they could be open to fraud or to being hit by an attack that could cripple a network, unlike bitcoin's blockchain. Think about the blockchain as a beefed up database. It records all transactions in bitcoin, doesn't allow repeat payments, and requires several parties to authenticate the movement of the digital coin.

### **III. Facts and Figures of Indian Stock Market [3]**

#### **Trading Volume[3]**

In the year 2009-10, the trading volumes increased by 50.36 % to 4,138,023 crore (US \$ 916,709 million) from 2,752,023 crore (US \$ 540,142 million) during 2008-09. The average daily trading volume increased from 11,325 crore (US \$ 2,223 million) during 2008-09 to 16,959 crore (US \$ 3,757 million) during 2009-10. The remarkable aspect was that the trading volumes in the year 2009-10 showed a growth of 16.53 % over the trading volumes witnessed in 2007-08.

#### **Market Capitalization[4]**

The total market capitalization of securities available for trading on the CM segment increased from 363,350 crore (US \$ 115,606 million) as at end March 1995 to 6,009,173 crore (US \$ 1,331,230 million) as at end March 2010. The Market capitalization witnessed an increase of 107.49 % during 2009-10 as compared to the market capitalization of 2,896,194 crore (US \$ 568,439 million) in 2008-09. As compared with 2007-08, the market capitalization in 2009-10 increased by 23.69 %. The market capitalization ratio of NSE was 97.49% as of March 31, 2010. The company with the highest market capitalization as of March 2010 was Reliance Industries Limited followed by Oil and Natural Gas Corporation of India Limited and NTPC Ltd.

#### **On-line IPOs [4]**

The on-line trading system of NSE is used by companies to make IPOs through book building. It is a fully automated screen based bidding system that allows trading members to enter bids on behalf of their clients. All bids received by the system are numbered, time stamped, and stored in the book till the last day of the book building process and the offer price is determined after the bid closing date. While ensuring efficient price discovery, this system reduces time taken for completion of the issue process. 342 companies have used the on-line IPO system of NSE by the end of March 2010.



**Internet Trading[4]**

At the end of March 2010, a total number of 363 members were permitted to allow investor's web based access to NSE's trading system. The members of the exchange in turn had registered 5,143,705 clients for web based access as on March 31, 2010. During the year 2009-10, 11.13 % of the trading value in the Capital Market segment (692,789 - US \$ 135,974 million) was routed and executed through the internet. The table below shows the growth of internet trading from the fiscal years 2006-07 till 2009-10. Chart-1 shows the internet trading volumes in the CM segment of NSE in comparison with the total traded volumes at NSE.

**IV. Internet and Economic Growth [5]**

According to a McKinsey report titled 'Internet matters: The Net's sweeping impact on growth, jobs, and prosperity', released at the e-G8 Forum held in Paris on May 24-25, 2011, internet contributed 5 per cent to the total gross domestic product (GDP) growth of India in the past five years compared with the average 3 per cent for BRIC (Brazil, Russia, India and China) economies. As per the report, companies are able to keep costs down, target customers better and bring goods and services to markets around the world much more easily. Individuals are able to compare prices, search hard-to-find items or information, communicate and learn in new, improved ways. Governments can serve citizens much more quickly and at a much lower cost through e-governance. According to the report there are 2 billion internet users worldwide and as a sector, internet related consumption and expenditure is now bigger than agriculture or energy. The report further said that internet has a sweeping impact on growth, prosperity of a country and has created 2.4 jobs for every job that it has destroyed. "The Internet is a contributor to net job creation. While jobs have been destroyed by the emergence of internet, many more have been created during the same period, including jobs directly linked to the internet, such as software engineers and online marketers as well as more traditional jobs, logistics to deliver online purchases," the report added. Moving towards an Internet-based economy can help fill the gaps that lead to poor performance in a traditional economy. Initiatives in the agriculture sector, such as 'mKrishi' in Madhya Pradesh, allow farmers to benefit from timely expert advice. The 'aAqua' project in Maharashtra uses the Internet to connect with farmers to address a range of concerns related to production, pricing, input and output supply. The Internet is also promoting government services in a big way. Examples such as Aarogyasri in Andhra Pradesh are enabling end-to-end cashless services to citizens, and filling health sector gaps in doctors or basic infrastructure. Broadband-supported, community-driven initiatives such as Barefoot College in Rajasthan, Chanderiyaan in Madhya Pradesh and AirJaldi in Himachal Pradesh are having

accelerated effects on citizens. HarVa is a greenfield project that serves as an outstanding example to demonstrate the causal impact of the Internet on income. The Internet is now widely considered a fundamental infrastructure in the Organization for Economic Cooperation and Development (OECD) countries in much the same way as electricity, water and transportation. India, as an OECD member, must recognize access to the Internet as a basic right. Still, there are a number of stumbling blocks that the technology needs to overcome to be viable across major organizations and industries at large. One of the major ones is interoperability. Essentially, how will blockchains developed by one firm work with DLT run by another company? There's a number of companies as outlined before developing blockchain platforms. But there is no guarantee that the each one will be compatible with another. It can be likened to the early days of mobile operating systems, where there were several systems including iOS, BlackBerryOS, Android and Symbian. Now iOS and Android dominate the smartphone market.

#### **V. Impact of Internet on the Growth of Financial Market [6]**

##### **E-Commerce Market to Be Rs. 46,520 Crores In 2011[6]**

The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI).

##### **Nation-Wide Broadband Connectivity Can Be Achieved In 3 Years[6]**

The Internet and Mobile Association of India (IAMAI) has said that an independent agency can ensure national broadband connectivity across the country within 36 months. This was said by the association in its response to the Telecom Regulatory Authority of India's (TRAI) new set of recommendations on the National Broadband Plan 2010. IAMAI fully supports TRAI's recommendations brought out in the consultation paper on National Broadband Plan. AMAI is of the view that the TRAI proposal alongside and in parallel with the developments in the market place viz., arrival of 3G and BWA will be able to bring in a true broadband revolution in India.

##### **60 Million Internet Users in India Witness Financial Transactions over Internet[7]**

Ministry of Communications and Information Technology, is of the opinion that the utility and relevance of digital commerce can be well understood by the fact that out of approximately 60 million internet users in India, nearly one third of this number are doing financial transactions over internet. Digital Commerce holds huge importance, especially for the

Indian economic structure. There is a lot of potential for the rural population as the outreach is very important to enable the rural population to gain maximum without having to spend so much by saving on fuel, time and effort etc.

#### **VI. Conclusion[8]**

Capital market plays a vital role in providing liquidity and the potential of the Indian capital market is immense. Stock market development matters for growth as access to external funds allows financially constrained firms to expand[8]. The paperless trading environment has reduced manipulations to a large extent and financial markets have started rewarding companies. Security is also one issue which is acting as a challenge at the mindshare level of internet users. Although threats are growing and getting increasingly dangerous, but technology is available to enable secure e-commerce experience. Through digital commerce the rural user can access services and data easily and effectively. All we need to look at carefully is to create a robust and safe infrastructure for carrying out this activity of users through online or mobile gateway. Fast internet connection, if provided at lower prices can give a boost to digital commerce regime.

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## 16. COWIN App for Covid- 19 - Hospitals

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### **Abstract**

As of March 11, 2020, COVID-19 is a pandemic, and the World Health Organization (WHO) has declared it a pandemic. The outbreak has disrupted international travel, trade, and employment. The government took strict measures to limit the spread of the virus and underestimated the burden of morbidity and mortality in order to maintain functional health care systems. Despite the success of mobile app solutions used for managing chronic diseases, the ongoing pandemic has made the need to reduce the risk of contamination caused by close contact even more pressing. Many nations have advised citizens to stay at home and practice social distancing as a primary measure of preventing the spread of the disease.

A number of mobile apps have been developed to control the spread of the virus. These apps are widely available, easy to adopt, and can support social distancing. Since they have been forged during the previous months in an attempt to "flatten the curve", providing knowledge and information to civilians while trying to relieve the pressure associated with health care techniques.

While mobile health solutions are increasingly used during COVID-19-related emergency plans, both health experts and the general public lack sufficient knowledge about their utility and efficacy during this pandemic. As part of this systematic review, we seek to discuss studies found in scientific publications that evaluate the efficacy and feasibility of mobile applications for prevention, management, treatment, or follow-up of COVID-19.

**Keywords:** COVID-19, Mobile App, Managing Diseases, Control Spread, Reduce Risk.

### **I. Introduction**

In the post-COVID-19 era, change has been rapid and clinicians, hospitals, and health care providers are required to adapt to rapidly changing clinic policies and social distancing guidelines. The information on distribution channels in our large academic medical center, including emails and hospital intranet posts, was insufficient to keep everyone informed about

the changes related to COVID-19. We adapted an in-house mobile application developed to help address these challenges and to enable direct telephonic communication between clinical group members and hospitalized patients. This helped reduce social distancing guidelines and enabled remote rounding between clinical groups.

## **II. Objective**

This study strived to explain the amazing benefits and challenges of adapting an app produced in-house to promote communication and remote rounding during COVID-19.

## **III. What Are Coronavirus Mobile Apps**

Coronavirus mobile apps are programs that administrations, clinics, universities, academies, and other parties are using to aid in the general response to COVID-19. These applications and dashboards can follow symptoms, deliver the latest data about the stretch of the virus, help us limit contact, and much more.

The program allows you to find what you need to know about the virus in several methods.

## **IV. Coronavirus Symptoms Apps**

Apps can be an essential tool for keeping a check on your own health. There are several knowns on the internet. The COVID-19 Screening Tool from the CDC and Apple guides you through a series of queries about your health and disclosure to the coronavirus. It then helps you to figure out if you should see a physician. It also conveys tips for social distancing, self-solitariness, and symptom pursuit.

## **V. Coronavirus Contact Tracing Apps**

Health divisions use contact tracing apps to find individuals who may have come into contact with somebody with COVID-19. Apps assist to capture data and monitor the movement of people to make the process snappier and more practical.

Some could recognize people who might have been exposed to the virus so they know to isolate themselves and observe for symptoms.

Tech giants Apple and Google have teamed up on a medium that uses Bluetooth and a phone's operating system for contact tracing.

Some people are skeptical of an app that tracks where they go and whom they encounter. Instead of storing data on a central server that may be vulnerable to hackers, Google and Apple say their apps won't be able to read the raw data themselves. Instead, the information will be

available only to health agencies through what's called an application programming interface (API).

## **VI. Conclusion**

In COVID-19, we were able to quickly develop and deploy a mobile app that assisted clinicians in keeping in touch with in-patients and with each other despite social distancing. A key advantage of our internal invention was the team's familiarity with institutional structures, the short feedback loops, security and privacy considerations that were limited, and the path to sustainability our innovation provided. Synchronization measures were taken to address content administration challenges, and timestamps were reviewed. Our use-activity metrics suggest that COVID-19 will continue to alter health care delivery in a way that our solution will remain vital in our efforts to deliver safe and up-to-date clinical care.

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## 17. Concept of Work from Home

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### **Abstract**

A lockdown and work from home mandates prompted by the outbreak of the newly discovered Coronavirus impacted all sectors of the economy, including the government, employers, and employees. In the wake of the pandemic, the world of work came to a halt as Governments, Employers, and Employees tried to work together to contain the virus and ensure continuity of work. Considering that Covid-19 is highly contagious, the Ministry of Corporate Affairs advised all corporations to implement WFH policies to reduce the spread of the disease. To facilitate a smooth transition from office based work to virtual collaboration, employers have begun offering employees the opportunity to work from home in such endeavors. Since the country was placed into lockdown more than four months ago, it is reasonable to assume WFH will remain. After the chaos and change of the last few months, EFI is committed to enhancing collaboration, networking, and providing advice and assistance to its members on every level so we can come out of the economy stronger than ever.

Working from home is not new. The majority of people worked from home during the Industrial Revolution - in agriculture, as skilled artisans, or as household managers. The rise of the factory system, and later the office, led the historic shift to the central workplace. It was reinforced by large falls in the cost of transporting people from home to work and back again, by bicycle, train, tram, car and bus. This shaped our cities, community and family life. More recently, technology has gone in a different direction. However, communication costs have dropped dramatically at a distance, despite the declining cost of commuting. The COVID-19 pandemic, however, proved unfavorable for remote work. After being forced to experiment with working from home, many companies and workers have changed their minds - becoming more positive about the feasibility and benefits of remote work. It has become more and more common for people to work from home, which will not go away. The report explores the role of the forced experiment due to the pandemic. The report highlights the importance of ongoing

experimentation and variety, with different firms trying out different models, some of which will work and some will not. emphasizes As firms and workers get better at managing remote work and finding the right balance, there will be continuous learning.

**Keywords:** Work from home, covid, lockdown, revolution, central workplace.

## **I. Introduction**

More people now have reliable home Internet connections, more occupations demand using computers and telecommunications, and more families have both parents working full time, which makes Working from Home [WFH] more common. In the wake of the Covid-19 pandemic, a considerable proportion of the global workforce was forced to switch to WFH, at least temporarily. By reducing commute time, providing more flexibility, increasing job satisfaction, and enhancing work-life balance over Working from the Office [WFO], WFH is preferable to WFO.

An Asian IT company is investigated by this study for the effects of WFH. As a result of the pandemic shock in March 2020, all employees were suddenly transferred from WFO to WFH. Our study has several novel and interesting features.

## **II. What is WFH (Work from Home)**

Due to the unprecedented crisis of Covid-19, employers as well as employees have some understanding of WFH; however, perceptions largely vary. WFH does not have a single definition in academic circles either. There are some key differences between WFH and Telework, despite the fact that the two terms are often used interchangeably. As WFH includes travel-related work as well as work done at home, Telework can be referred to as a subset of WFH.

Home-based work is an alternative way to organize tasks, which is characterized by employees working at home (away from the traditional office or factory) and accessing their work activities through technology. (Nilles, 1997; Perez et al., 2003). It provides an alternative to the traditional way of working for a temporary period or on a long-term basis.

Despite its current popularity, WFH is not a new concept, especially after the onset of the current pandemic. There is constant change in the world of work. The work process can be revolutionized and brought to a tectonic shift if there are epoch moments which revolutionize it. The Industrial Revolution was one such moment. Work used to be mostly family enterprises and performed mostly at home before the Industrial Revolution. Across India, handicrafts, jewelry



made of stones, ivory carvings, wood carvings, stone carvings, and the production of spices are all family businesses.

During the Industrial Revolution, production shifted from residences to factories, and workers moved from their homes to the factories. This phenomenon continued for over 200 hundred years. A watershed moment in the world of work occurred when Information and Communication Technology (ICT) was introduced and widely used. People started returning to working from home again after the Industrial Revolution as a result.

### **III. Benefits of Work from Home**

Some companies had some sort of experience before the pandemic, before many were forced to implement WFH unprepared. Many service-based companies, primarily the IT and software sectors, have already implemented this approach, including Tata Consultancy Services (TCS), Infosys, IBM, and Cognizant, for example. Even so, they were not considered to be a right of an employee, but rather a privilege granted under appropriate conditions to employees whose responsibilities made sense under the arrangement.

The benefits of working from home have been studied again and again by researchers (Perez et al., 2003; Buciuniene et al., 2010).

#### **Benefit for Employers**

- Working with WFH increases productivity compared to conventional methods (Fonner and Roloff, 2010; Golden and Veiga, 2008; Bloom et al 2014)
- Reduction in turnover rate (Stavrou et al, 2010; Bloom et al 2014)
- Reduction in organizational cost (Choudhury et al., 2018)
- Since the WFH will not be limited by geography, it will be able to hire from a broader talent pool
- geographic conditioning.
- A distributed workforce could help should a calamity, such as a natural catastrophe, occur
- Reduces risks by ensuring continuity in operation.

#### **Benefit for Employees**

- Commuting time is reduced: This is particularly important for Indians
- Due to its high commuting rates (Tremblay and Witkin, 1997), people in the city spend on average 7% of the day commuting

- Thomson, 2012);
- Reduced travel and other associated costs (Morgan, 2004)
- An improvement in the balance between work and personal life and a reduced level of employee stress (Fonner & Roloff, 2010; Blom et al 2014)
- Increased autonomy for individuals (Harpaz, 2002)
- Ammons and Markham, 2004; Johnson et al., 2007): families and leisure time are now more important.
- Increased job satisfaction (Gurstein, 2001; Pratt, 1999)
- It is less likely that co-workers will distract you (Golden and Veiga, 2008)

#### **IV. Concern Associated with WFH**

The World Food Programme has gained popularity and is also viewed as a long-term alternative to the traditional way of doing things during pandemics. The World Food Programme does present some challenges, however. A senior fellow at Stanford Institute for Economic Policy Research (SIEPR), Nicholas Bloom, said the outcome would be a productivity disaster for firms. Among his recommendations: prerequisites and The conditions necessary for it to succeed and be effective. There will be challenges at both ends.

#### **V. Conclusion**

The success of WFH will rely on collaboration between different stakeholders. Employees must be made aware of the goals and expectations of their employers. Policies to ensure they are met must also be formulated. Cloud computing, automation, and collaborative tools will be required as a result of remote working. Motivated and enthused employees are required to achieve this future together. This may mean adjusting recruitment practices, rewards and recognition policies, engagement initiatives, exit processes, and other processes. To succeed in this arrangement, employees at WFH will need to be more proactive than ever before since their talent pool will be so large, diverse, and competitive. Last but not least, the government can play an important role by providing policies conducive to WFH and by facilitating infrastructure across the country.

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## 18. Increase in Online Stock Market

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### **Abstract**

The internet has made financial products and services available to more customers and eliminated geographical barriers. Earlier investors were solely dependent on their brokers but nowadays they are participating more in buying and selling of shares with the help of internet. E-trading has saved time, energy and money as it helps to access the market from any where at any time. The primary objective of this research paper is to analyze the impact of internet growth on the stock market transactions. The paper also discusses the current state of internet trading in India and particularly the scope of online trading market available in India. Nearly two billion people are connected to the Internet. During the last twenty years, the technology revolution has had an intense and irreversible impact on the world and Indian stock market has also witnessed these changes. From its formal inception in the 19th century, the Indian capital market has come a long way and can be said to be in a maturity stage, backed by a developed legal system.

**Keywords:**– Internet, Online Stock Trading, market capitalization, Indian Stock Market

### **I. Introduction**

Online trading involves investment activity takes place over the internet and it does not require physical presence of the broker. The National Stock Exchange started the first form of online trading wherein user/investors can buy/sell stocks in a day without much paper work. Earlier it used to take around 60 days to buy/sell stocks in stock markets and the investor also had to go through loads of paper work. But thanks to Internet the wait has curbed and in the last ten years, Indian capital markets have recorded 1488% of growth in exchange turnover. India was introduced to the Internet in the early 90's and the use started to increase rapidly. India stands 5th in the list of countries by number of internet users. The Stock markets introduced Internet trading (online-trading) in February 2002 which has brought a tremendous change in trading.

**II. Stock Trading in India.[2]**

Almost all the significance firms of India are listed on both the exchange. The BSE is the older stock market but the NSE is the largest stock market, in terms of volume. It seems like an unnecessarily complicated process for moving money. But the blockchain has its advantages. They are also usually owned by one entity. Because of this nature, they could be open to fraud or to being hit by an attack that could cripple a network, unlike bitcoin's blockchain. Think about blockchain as a beefed up database. It records all transactions in bitcoin, doesn't allow repeat payments, and requires several parties to authenticate the movement of the digital coin. With traditional methods of payment every transaction in the world is registered on privately-held databases owned by corporate and state entities. These databases are not accessible by the public and therefore closed. Facts and Figures of Indian Stock Market [3]

**Trading Volume[3]**

The volume traders measures the total number of shares or contracts transacted for a specified security during a specified security during a specified time period. The remarkable aspect was that the trading volumes in the year 2009-10 showed a growth of 16.53 % over the trading volumes witnessed in 2007-08. In the year 2009-10, the trading volumes increased by 50.36 % to 4,138,023 crore (US \$ 916,709 million) from 2,752,023 crore (US \$ 540,142 million) during 2008-09. The average daily trading volume increased from 11,325 crore (US \$ 2,223 million) during 2008-09 to 16,959 crore (US \$ 3,757 million) during 2009-10.

**Market Capitalization[4]**

The company with the highest market capitalization as of March 2010 was Reliance Industries Limited followed by Oil and Natural Gas Corporation of India Limited and NTPC Ltd. The total market capitalization of securities available for trading on the CM segment increased from 363,350 crore (US \$ 115,606 million) as at end March 1995 to 6,009,173 crore (US \$ 1,331,230 million) as at end March 2010. The Market capitalization witnessed an increase of 107.49 % during 200910 as compared to the market capitalization of 2,896,194 crore (US \$ 568,439 million) in 2008-09. As compared with 200708, the market capitalization in 2009-10 increased by 23.69 %. The market capitalization ratio of NSE was 97.49% as of March 31, 2010.

**On-line IPOs [4]**

An Initial public offering refers to the process of offering shares of a private corporation to the public in a new stock issuance. It is a fully automated screen based bidding system that

allows trading members to enter bids on behalf of their clients . The on-line trading system of NSE is used by companies to make IPOs through book building. All bids received by the system are numbered, time stamped, and stored in the book till the last day of the book building process and the offer price is determined after the bid closing date. While ensuring efficient price discovery, this system reduces time taken for completion of the issue process. 342 companies have used the on-line IPO system of NSE by the end of March 2010.

#### **Internet Trading[4]**

In 1992 the internet based trading was first founded of the mainstream discount brokerage firms. The table below shows the growth of internet trading from the fiscal years 2006-07 till 2009-10. Chart-1 shows the internet trading volumes in the CM segment of NSE in comparison with the total traded volumes at NSE. At the end of March 2010, a total number of 363 members were permitted to allow investor's web based access to NSE's trading system. The members of the exchange in turn had registered 5,143,705 clients for web based access as on March 31, 2010. During the year 2009-10, 11.13 % of the trading value in the Capital Market segment (692,789 - US \$ 135,974 million) was routed and executed through the internet.

#### **INTERNET AND ECONOMIC GROWTH [5]**

Governments can serve citizens much more quickly and at a much lower cost through e-governance. According to the report there are 2 billion internet users worldwide and as a sector, internet related consumption and expenditure is now bigger than agriculture or energy. The report further said that internet has a sweeping impact on growth, prosperity of a country and has created 2.4 jobs for every job that it has destroyed .According to a McKinsey report titled 'Internet matters: The Net's sweeping impact on growth, jobs, and prosperity', released at the e-G8 Forum held in Paris on May 24-25, 2011, internet contributed 5 per cent to the total gross domestic product (GDP) growth of India in the past five years compared with the average 3 per cent for BRIC (Brazil, Russia, India and China) economies. The Internet is now widely considered a fundamental infrastructure in the Organization for Economic Cooperation and Development (OECD) countries in much the same way as electricity, water and transportation. India, as an OECD member, must recognize access to the Internet as a basic right. Still, there are a number of stumbling blocks that the technology needs to overcome to be viable across major organizations and industries at large. As per the report, companies are able to keep costs down, target customers better and bring goods and services to markets around the world much more

easily. Individuals are able to compare prices, search hard-to-find items or information, communicate and learn in new, improved ways. "The Internet is a contributor to net job creation. Initiatives in the agriculture sector, such as 'mKrishi' in Madhya Pradesh, allow farmers to benefit from timely expert advice. The 'aAqua' project in Maharashtra uses the Internet to connect with farmers to address a range of concerns related to production, pricing, input and output supply. While jobs have been destroyed by the emergence of internet, many more have been created during the same period, including jobs directly linked to the internet, such as software engineers and online marketers as well as more traditional jobs, logistics to deliver online purchases," the report added. Moving towards an Internet-based economy can help fill the gaps that lead to poor performance in a traditional economy. The Internet is also promoting government services in a big way. Examples such as Aarogyasri in Andhra Pradesh are enabling end-to-end cashless services to citizens, and filling health sector gaps in doctors or basic infrastructure. Broadband-supported, community-driven initiatives such as Barefoot College in Rajasthan, Chanderiyaan in Madhya Pradesh and AirJaldi in Himachal Pradesh are having accelerated effects on citizens. HarVa is a greenfield project that serves as an outstanding example to demonstrate the causal impact of the Internet on income. One of the major ones is interoperability. Essentially, how will blockchains developed by one firm work with DLT run by another company? There's a number of companies as outlined before developing blockchain platforms. But there is no guarantee that the each one will be compatible with another. It can be likened to the early days of mobile operating systems, where there were several systems including iOS, BlackBerryOS, Android and Symbian. Now iOS and Android dominate the smartphone market.

### **III. Impact of Internet on the Growth of Financial Market [6]**

#### **E-Commerce Market to be Rs. 46,520 Crores in 2011[6]**

The internet has the potential to increase productivity growth in a variety of distinct , but mutually reinforcing ways. The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI).

**Nation-Wide Broadband Connectivity Can Be Achieved In 3 Years[6]**

The internet also may be the most obvious it can transmit information quickly, conveniently and inexpensively. The Internet and Mobile Association of India (IAMAI) has said that an independent agency can ensure national broadband connectivity across the country within 36 months. This was said by the association in its response to the Telecom Regulatory Authority of India's (TRAI) new set of recommendations on the National Broadband Plan 2010. IAMAI fully supports TRAI's recommendations brought out in the consultation paper on National Broadband Plan. AMAI is of the view that the TRAI proposal alongside and in parallel with the developments in the market place viz., arrival of 3G and BWA will be able to bring in a true broadband revolution in India.

**Million Internet Users in India Witness Financial Transactions over Internet[7]**

Ministry of Communications and Information Technology, is of the opinion that the utility and relevance of digital commerce can be well understood by the fact that out of approximately 60 million internet users in India, nearly one third of this number are doing financial transactions over internet. Digital Commerce holds huge importance, especially for the Indian economic structure. There is a lot of potential for the rural population as the outreach is very important to enable the rural population to gain maximum without having to spend so much by saving on fuel, time and effort etc.

**IV. Conclusion[8]**

Fast internet connection, if provided at lower prices can give a boost to digital commerce regime. The stock equity, bonds are debt. Bondholders are guarantee a return on their investment and have a higher claim than shareholders. Capital market plays a vital role in providing liquidity and the potential of the Indian capital market is immense. Although threats are growing and getting increasingly dangerous, but technology is available to enable secure e-commerce experience. Stock market development matters for growth as access to external funds allows financially constrained firms to expand [8]. The paperless trading environment has reduced manipulations to a large extent and financial markets have started rewarding companies. Security is also one issue which is acting as a challenge at the mindshare level of internet users. Through digital commerce the rural user can access services and data easily and effectively. All we need to look at carefully is to create a robust and safe infrastructure for carrying out this activity of users through online or mobile gateway.



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An Initial public offering refers to the process of offering shares of a private corporation to the public in a new stock issuance. It is a fully automated screen based bidding system that allows trading members to enter bids on behalf of their clients. The on-line trading system of NSE is used by companies to make IPOs through book building. All bids received by the system are numbered, time stamped, and stored in the book till the last day of the book building process and the offer price is determined after the bid closing date. While ensuring efficient price discovery, this system reduces time taken for completion of the issue process. 342 companies have used the on-line IPO system of NSE by the end of March 2010.

**Internet Trading[4]**

In 1992 the internet based trading was first founded of the mainstream discount brokerage firms. The table below shows the growth of internet trading from the fiscal years 2006-07 till 2009-10. Chart-1 shows the internet trading volumes in the CM segment of NSE in comparison with the total traded volumes at NSE. At the end of March 2010, a total number of 363 members were permitted to allow investor's web based access to NSE's trading system. The members of the exchange in turn had registered 5,143,705 clients for web based access as on March 31, 2010. During the year 2009-10, 11.13 % of the trading value in the Capital Market segment (692,789 - US \$ 135,974 million) was routed and executed through the internet.

**Internet and Economic Growth [5]**

Governments can serve citizens much more quickly and at a much lower cost through e-governance. According to the report there are 2 billion internet users worldwide and as a sector, internet related consumption and expenditure is now bigger than agriculture or energy. The report further said that internet has a sweeping impact on growth, prosperity of a country and has created 2.4 jobs for every job that it has destroyed. According to a McKinsey report titled 'Internet matters: The Net's sweeping impact on growth, jobs, and prosperity', released at the e-G8 Forum held in Paris on May 24-25, 2011, internet contributed 5 per cent to the total gross domestic product (GDP) growth of India in the past five years compared with the average 3 per cent for BRIC (Brazil, Russia, India and China) economies. The Internet is now widely considered a fundamental infrastructure in the Organization for Economic Cooperation and Development (OECD) countries in much the same way as electricity, water and transportation. India, as an OECD member, must recognize access to the Internet as a basic right. Still, there are a

number of stumbling blocks that the technology needs to overcome to be viable across major organizations and industries at large. As per the report, companies are able to keep costs down, target customers better and bring goods and services to markets around the world much more easily. Individuals are able to compare prices, search hard-to-find items or information, communicate and learn in new, improved ways. "The Internet is a contributor to net job creation. Initiatives in the agriculture sector, such as 'mKrishi' in Madhya Pradesh, allow farmers to benefit from timely expert advice. The 'aAqua' project in Maharashtra uses the Internet to connect with farmers to address a range of concerns related to production, pricing, input and output supply. While jobs have been destroyed by the emergence of internet, many more have been created during the same period, including jobs directly linked to the internet, such as software engineers and online marketers as well as more traditional jobs, logistics to deliver online purchases," the report added. Moving towards an Internet-based economy can help fill the gaps that lead to poor performance in a traditional economy. The Internet is also promoting government services in a big way. Examples such as Aarogyasri in Andhra Pradesh are enabling end-to-end cashless services to citizens, and filling health sector gaps in doctors or basic infrastructure. Broadband-supported, community-driven initiatives such as Barefoot College in Rajasthan, Chanderiyaan in Madhya Pradesh and AirJaldi in Himachal Pradesh are having accelerated effects on citizens. HarVa is a greenfield project that serves as an outstanding example to demonstrate the causal impact of the Internet on income. One of the major ones is interoperability. Essentially, how will blockchains developed by one firm work with DLT run by another company? There's a number of companies as outlined before developing blockchain platforms. But there is no guarantee that the each one will be compatible with another. It can be likened to the early days of mobile operating systems, where there were several systems including iOS, BlackBerryOS, Android and Symbian. Now iOS and Android dominate the smartphone market.

### **III. Impact of Internet on the Growth of Financial Market [6]**

#### **E-Commerce Market to be Rs. 46,520 Crores in 2011[6]**

The internet has the potential to increase productivity growth in a variety of distinct , but mutually reinforcing ways. The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is

expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI).

#### **Nation-Wide Broadband Connectivity can be Achieved in 3 Years[6]**

The internet also may be the most obvious it can transmit information quickly, conveniently and inexpensively. The Internet and Mobile Association of India (IAMAI) has said that an independent agency can ensure national broadband connectivity across the country within 36 months. This was said by the association in its response to the Telecom Regulatory Authority of India's (TRAI) new set of recommendations on the National Broadband Plan 2010. IAMAI fully supports TRAI's recommendations brought out in the consultation paper on National Broadband Plan. AMAI is of the view that the TRAI proposal alongside and in parallel with the developments in the market place viz., arrival of 3G and BWA will be able to bring in a true broadband revolution in India.

#### **Million Internet Users in India Witness Financial Transactions over Internet[7]**

Ministry of Communications and Information Technology, is of the opinion that the utility and relevance of digital commerce can be well understood by the fact that out of approximately 60 million internet users in India, nearly one third of this number are doing financial transactions over internet. Digital Commerce holds huge importance, especially for the Indian economic structure. There is a lot of potential for the rural population as the outreach is very important to enable the rural population to gain maximum without having to spend so much by saving on fuel, time and effort etc.

#### **IV. Conclusion[8]**

Fast internet connection, if provided at lower prices can give a boost to digital commerce regime. The stock equity, bonds are debt. Bondholders are guarantee a return on their investment and have a higher claim than shareholders. Capital market plays a vital role in providing liquidity and the potential of the Indian capital market is immense. Although threats are growing and getting increasingly dangerous, but technology is available to enable secure e-commerce experience. Stock market development matters for growth as access to external funds allows financially constrained firms to expand [8]. The paperless trading environment has reduced manipulations to a large extent and financial markets have started rewarding companies. Security is also one issue which is acting as a challenge at the mindshare level of internet users Through digital commerce the rural user can access services and data easily and effectively. All we need

to look at carefully is to create a robust and safe infrastructure for carrying out this activity of users through online or mobile gateway.

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## 20. Covid-19 Pandemic - A Big Catalyst for the Adoption of Digital Payment Modes

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### **Abstract**

With the liberalisation of the banking industry and the advent of new technologies such as Magnetic Ink Character Recognition (MICR), Automated Teller Machine (ATM), and others, India's digital payment environment has seen a progressive shift since the 1990s. Following that, in 2010, plenty of new payment products (debit cards, mobile banking, wallets, and recharge coupons) and service providers hit the market. The Reserve Bank of India observed in its Annual Report 2020-21 that the Covid-19 outbreak fueled the expansion of digital means of payment. [1] In the current environment, digital payments play an important role and offer numerous benefits over cash, including ease of transaction, security, and transparency. The importance of digital payments during pandemic, the various types of digital payment systems, the expansion of digital payment during the previous three years, and the road forward are all discussed in this paper.

**Keywords:-** Pandemic, digital payment, mobile banking, cash, transaction

### **Introduction**

The transition to more sophisticated digital payment systems began even before the pandemic. However, when businesses closed and consumers were urged to buy practically everything online, the use of contactless payment methods increased rapidly. The enormous increase in demand for contactless payment has resulted in amazing results for major cashless payment companies such as Paytm, Google Pay, PhonePe, Amazon Pay, PayPal, and others. As a result, the number of digital payment transactions has continued to rise in India since the start of the Covid-19 pandemic. This was also true for all modes of digital payments including mobile payment through UPI (Unified Payment Interface), Immediate Payments Service, RTGS (Real Time Gross Settlement), NEFT (National Electronic Funds Transfer) and credit cards have



also seen a sharp rise as consumers preferred to stay home and maintain social distancing. [6] According to the findings of a poll on the impact of Covid-19 and the ensuing lockdowns, a majority of 81 percent of respondents said they used digital payment methods more than cash.

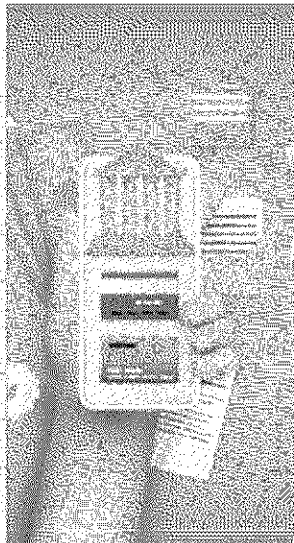
### **Importance of Digital Payments**

- Convenience and accessibility - Using digital payment methods is quite simple. Payments can be made online in a matter of seconds. You must hover your card over the payment equipment in the case of a contactless purchase. It can be accessed from any mobile device.
- Lower Risk - The crucial transaction details will be securely sent by the online payment gateway. Making an online transaction does not require a set time; you may do it whenever you like.
- Track Everything - One of the standout benefits of using digital payment mode is the ability to track your transactions.
- Cost savings - Digital Payments will save governments and businesses a substantial amount of money.
- The Future of Digital Payment - As previously indicated, the online payment business is booming following the arrival of COVID-19. Several digital payment providers are working hard to increase the use of digital payment systems. Without a doubt, the post-pandemic era will be dominated by the use of digital payment methods. As technology advances, a number of businesses have implemented advanced payment terminals. This payment terminal would make it easy for retailers to accept credit card payments. Customers would now be able to make deposits in a more convenient manner. As a consequence, the online payment mechanism will be a blessing in disguise for small merchants.
- Various Modes of Digital payments [5] - NPCI, which was founded in 2008 under the patronage of the Reserve Bank of India and the Indian Bank Association, has embarked on a machine for touching every Indian across its diverse range of digital payment items like UPI, BHIM, RuPay, NETC, AePS (Aadhaar enabled Payment System), Bharat Billpay, NFS (National Financial Switch), NACH (National Automated Clearing House), CTS, IMPS (Immediate Payment Service) and to facilitate safe and protected digital payments. These services are helpful in:

- Transfer of money from person to person
- Person to business, such as stores, petrol stations, recharges, e-commerce,
- Business to business, such as a retailer to supplier or distributor
- Business to person as salaries, reim-bursement, claims.

### Impact of covid-19 on the payments industry

	Volume (lakh)		Value (₹ crore)	
	2020	2021	2020	2021
RTGS	1,507	1,592	13,11,56,475	10,55,99,849
AePS (Fund Transfers)	10	11	469	623
IMPS	25,792	32,783	23,37,541	29,41,500
NACH credit	11,290	16,450	10,43,212	12,32,714
NEFT	27,445	30,928	2,29,45,580	2,51,30,910
UPI	1,25,186	2,23,307	21,31,730	41,03,658
BHIM Aadhaar Pay	91	161	1,303	2,508
Card payments	72,384	57,841	14,34,814	12,93,822
Prepaid payment instruments (PPI)	53,318	49,392	2,15,558	1,97,695



Source: RBI Annual Report

Fig.1. Digital payments: Annual report 2020-21[1]

Since the outbreak of the pandemic, digital payments have kept economies afloat while also assisting people in avoiding virus contact. Digital payments in India are growing at a faster rate than in many other advanced less-cash economies. Overall, the total volume of digital transactions in 2020-21 was 4,371 crore, up from 3,412 crore in 2019-20, demonstrating the digital payment system's resilience in the face of the pandemic.

For instance, the volume of UPI transactions increased by 88 percent in September 2020 compared to September 2019. Volumes, on the other hand, rose by 103 percent in September 2021. Similarly, the value of UPI transactions increased by 98 percent in 2021 compared to the same month the previous year. Customers have fully accepted cashless payments and banking, according to bankers and payment players, and it is unlikely that they will revert to utilising physical banking or cash for specific payments during the pandemic. As a natural outcome, it's no surprise that major multinational competitors like Google Pay and Amazon Pay have entered the market. However, in 2021, the most popular app was PhonePe, a domestic app.

### **Indian Government's Stance**

The industry has also seen continued involvement from the government by way of its targeted regulatory policies in the payments space. While, demonetization indirectly pushed forward the digital transformation of the Indian payments ecosystem, other initiatives like the Digital India program (under the Ministry of Electronics and Information Technology or MeitY), Jan Dhan Yojna, mandating electronic payments for businesses having turnover over INR50 Cr and several other incentive and awareness programs have directly contributed to the industry's growth. A number of notable inventions and initiatives have transformed the way India transacts. For example, with initiatives like UPI, Bharat interface for money (BHIM), RuPay cards, FASTags, the introduction of interoperability on wallets, cash recyclers, or FinTech innovations like radio frequency identification (RFID) based fuelling apps, all-in-one quick response (QR) code for merchants, and QR-based cash withdrawals on ATMs; digital India clearly has a promising future. Consumer awareness and security concerns, on the other hand, remain among the industry's major roadblocks, necessitating continued collaborative efforts by banks, payment providers, regulators, and the government.

### **Emerging Trends**

Contactless digital payments at the point of sales, such as facial recognition, QR codes, or near-field communications (NFC), can reduce the risk of the virus spreading through cash exchanges. In-person transactions are being limited by online payments, allowing consumers to purchase essentials from the comfort of their own homes. Enhanced e-commerce initiatives are also assisting small firms in maintaining revenue during this uncertain period. [7]

#### **A. Regulatory Implications**

The RBI is also working to expand the geo-tagging framework in place to capture the location of bank branches, ATMs, and BCs to include payment system touchpoints, allowing for accurate location capture across the country. In addition, the prospect of leveraging India's domestic payment systems to facilitate cross-border transactions is being explored and charges for inward remittances will be reviewed. [3]

#### **B. Key growth factors going forward**

Various initiatives, such as an innovation hub, a regulatory sandbox, and offline payment solutions, are being implemented in the digital payments space to guarantee that India maintains its leadership position in the digital ecosystem. With the development of offline digital

payments, it is anticipated that digital payments would maximize even more, particularly in semi-urban and rural areas where Internet connectivity and smartphone usage are still low.

In India, some of the most important product breakthroughs in the digital payments industry include: [2]

- a. **QR Code:** QR code-based payments are gaining popularity since they may be used to pay for petrol, groceries, utility bills, food, travel, and a variety of other services, and they can be scanned from both paper and screens.
- b. **UPI for Merchant Transactions:** This is an instant payment method in which a consumer scans a dynamic QR code generated on the POS screen with any mobile-based UPI app, which may also incorporate contactless payment solutions.
- c. **Payment gateway:** An e-commerce platform that permits merchants to receive payments through multiple payment channels is known as a payment gateway. This enables merchants to accept voluminous payments in a secure environment amid Covid-19, which is useful for online groceries, entertainment, food, and other e-commerce merchants.
- d. **Contactless payments:** Customers can pay with their contactless credit or debit cards or through a 'Tap and Pay' functionality on a mobile app by tapping them on the PoS terminal using the NFC feature in conjunction with magnetic secure transmission (MST) technology.

### **Cybersecurity**

Maintaining control over the number of frauds that occur, as well as ensuring that customers are not impacted, is critical to improve customer's confidence in digital payments. In the financial business, balancing customer experience with cyber security is an ongoing challenge, and fraud prevention is a primary priority that is likely to continue in the coming years. [2]

As India's reliance on digital payment systems grows, notably through UPI and mobile wallets, these flaws are broadening the threat environment landscape for cyber-attacks like identity spoofing, session hijacking, malware injection, 'Distributed Denial of Service', and 'Man in the Middle' attacks. Identity thieves are becoming more sophisticated, and they are not only using stolen identification but also combining actual and fake information to create new, digital-only identities. Only in the digital matrix do these 'synthetic identities' exist. Existing

fraud detection techniques are only capable of detecting transaction fraud, not serious risks like these.

In light of such growing fraudulent deceits, Artificial intelligence is expected to become essential for successful payments fraud prevention strategies.

### **Conclusion**

The elements of the payment ecosystem that are most adaptable to disruption and least reliant on physical infrastructure have been able to withstand, manage, and even profit from the crisis, converting a potential threat into an opportunity. Around 44 billion digital payments were registered in India in the fiscal year 2021. [4] In comparison to the preceding three years, this was an increase. India's digital payment ecosystem is estimated to expand quickly in the post-COVID-19 period, helping to shape the country's economy.

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## 21. Importance of AI in Teaching Field

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### **Abstract**

This research gives us the idea and about the importance of IT in Teaching, advantage and disadvantage of IT in Teaching, why do we need it, Factors that are influencing to use IT in Teaching as well as the importance of school culture in the use of ICT. This review discusses gaps in the literature and the directions that future studies may take to address these gaps.

**Keywords:**– Education, Environment, Information and Communication Technology.

### **I. Introduction**

The education sector has, unfortunately, always held a reputation of being a laggard as far as technology adoption goes. However, we cannot ignore the fact anymore that the next gen that we are targeting is tech-friendly. They start on these technological advancements as soon as they are born and are far away from the traditional way of doing things that we are used to. The various interactive methods that are available to us thanks to technology, make the entire learning process not just interesting but easier for the kids also to hook on to subjects and understand them as well. Watching a 3D version of a heart is much more interesting than reading about it. Even the teachers, who are going to impart knowledge to the future generation, belong to an era, which is breeding and living on technologies like Facebook and Wikipedia. There is no way that we can stop our children from being on these platforms as well. So what is the way out? The only way is to make them responsible enough to use these platforms in the right

#### **A. Why is it important?[1]**

To really utilize these tools, teachers should ask themselves why students want technology in the classroom, not just why they need it. It can definitely help education professionals in the monitoring of individual development and innovative lesson planning. But the students who learn through technology can create a set of skills that will help them throughout their own future careers.

### **Why Do Students Need Technology in the Classroom?[1]**

#### **It simplifies access to educational resources.**

Because students already rely on technology in their everyday lives, why not integrate it into the classroom? Children today frequently use their smartphones and tablets outside of school hours, and should be trusted with the responsibility during school as well. Many believe that it actually helps students stay engaged during class by using a familiar tool for academic learning.

#### **It improves the learning experience.**

By incorporating modern technology like artificial intelligence, for instance, teachers can develop more creative and innovative lesson plans to hold the attention of their classes. Not to mention, as new methods of teaching develop, so does the need for specialized professionals both within and outside of the education field.

#### **Students can learn at their own pace**

Many believe that technology can enhance individual learning, removing educational boundaries that teachers may face. It enables online education, distance learning, and access to up-to-date information. Because each student interprets this information differently, technology can enable more research into subjects that are more difficult to learn.

#### **It helps students prepare for their future careers**

As we all know, technology is widely used by professionals across a wide range of fields and industries. Its inclusion into the classroom may help students feel more ease and familiarity when approaching the start of their career. It can also enhance class interaction by encouraging collaboration of differing learning styles.

#### **Students demand it.**

Many children today feel comfortable using technology from a young age. When we introduce new ideas or subjects by using tools they've already mastered, students will feel confident in their ability to learn the new material and may even feel empowered to help their classmates learn.

#### **B. What is it?[2]**

A systematic approach to the processes and resources of teaching, educational technology, or EdTech, utilizes technology to improve the performance of students. It

### **II. Pros and Cons[3]**

List of the Advantages of IT in Teaching.[3]

**It provides credibility for the teacher.**

Today's students have never known a world without advanced technology. They didn't need to wait 45 minutes for a new website to load over a slow dial-up modem. The joys of being in an AOL chat room will never be known. Teachers who embrace technology bring a level of credibility to their knowledge for this generation that allows for educational applications in numerous subjects. Even just a single technological tool can make a major impact on the modern student.

**It provides access to numerous resources instantly.**

It wasn't that long ago when students were forced to drag heavy textbooks to class with them every day. Now most of those textbooks are available online and can be accessed through a computer. Organizational platforms complement the e-books and other tools that are available through technology so that the learning process is streamlined and effective.

**It automates the boring stuff.**

For teachers, technology in the classroom is important as well. There are engagement tools available today that can begin to automate the grading process. Software platforms make it easier to track the performance of individual students, identifying learning gaps with greater speed. By automating more of the tedious work that teachers do every day, there is more time for actual teaching and less time spent at home reviewing work.

**It creates a collaborative learning approach.**

When students of any age are in a learning environment that is based on a lecture format, the amount of information they retain can be as low as 5%. For many students, the classroom experience was based on an "expert" using their classroom soapbox to disseminate knowledge. Technology has brought collaboration into the classroom. Students who learn in a collaborative environment can retain up to 80% of the information they study. And, if interactive practice is included in the classroom environment, information retention levels can reach 95% for some students.

**It is an easy way to learn core vocational skills.**

Just about everyone has an online connection today. Students get to learn how to limit personal information in a safe environment when technology is introduced to the classroom. They can learn proper writing etiquette when it comes to online communication. They get to create presentations. They write documents using formatting guidelines. They learn how to



research new subjects and how to properly source the data they find. These are all vital skills for the modern workplace and today's students have the opportunity to master them before they even start looking for a job.

### **List of the Disadvantages of IT in Teaching.[3]**

#### **It can be distracting to students.**

Technology access can be just as addicting as alcohol, drugs, and other vices. In the United States, the average person checks their smartphone about 100 times per day. That action occurs even if there are zero notifications for them to check on. Students may find themselves trying to access other components of the online experience instead of the learning experience. Only clear boundaries and expectations to follow can counter this issue so that technology can provide a needed learning opportunity.

#### **It can disconnect students from face-to-face relationships.**

Interacting with people online is a very different experience than interacting with them face-to-face. When people feel like they can be anonymous, they begin to lose the filter that they have over their words and conduct. Some people even disconnect from regular social interactions for the comfort of a screen, words, and emojis. That is why technology should be used as a tool in the classroom. It cannot be the only component of the learning process for students.

#### **It can make it easier to cheat.**

Technology allows for easier communication between people and that is a definite positive. That ease of communication also makes cheating more likely. All it takes is a single group email broadcast to share the answers to a quiz or test, especially if the teacher is not monitoring student interactions on the computer. An easy way to counter this issue is to provide assignments which require an individual perspective. Encouraging thought instead of memorization typically reduces the urge to cheat.

#### **It could put some students at a disadvantage.**

In the United States, there are 1 in 5 children who live in households that do not have regular food security. The idea of incorporating modern technology into their lives is secondary. It's better to have a pantry stocked with essential groceries than to have a new iPhone in the pocket. Schools must provide technology access that is equal to everyone for it to be an effective learning tool. Free resources, such as computer access at a library, must have barriers to access removed. Only through sharing can this issue be negated.

**It could cause students to use unreliable resources for learning.**

There is a lot of good stuff that can be found on the internet today. There is also a lot of misleading and outright false data that can be found as well. Students must learn how to identify a quality information source from something that might be labeled as “fake news.” Drawing opinions on questionable content could put students at a disadvantage when it comes time to carve out a spot for themselves with the rest of society.

**III. Factors Influencing the use of ICT[4]**

Factors influencing the use of ICT can be divided into external factors and internal factors. The two types of factors are related to each other and to ICT usage level. A variety of external factors have been identified that influence the progression or effectiveness of technology integration in schools. These include technology availability, accessibility of ICT equipment, time to plan for instruction, technical and administrative support, school curriculum, school climate and culture, faculty teaching load and management routine, and pressure to prepare students for national entrance exams. Among these external factors, the most common are lack of access to computers and software, insufficient time for course planning, and inadequate technical and administrative support found that some external factors were positively associated with technology integration, including availability of technology and support from technicians, teachers, and principals. Thus, technology availability and overall support are important to technology integration. The higher the support structure and technology availability, the higher the technology integration efforts are made by teachers. Several internal factors also influence technology integration outcomes. Internal factors related to teachers include: understanding of ICT use; beliefs, which may conflict with the application of ICT; attitudes toward technology integration; perceptions, including intention or motivation to use ICT; self-confidence and knowledge; technology skills; readiness to use ICT; and technology self-efficacy discovered two common issues associated with internal factors. First, teachers may implement policies based on limited or improper theoretical interpretations and comprehension of ICT use. Second, teachers may be under pressure to cover all content and be unwilling or hesitant to let students spend more time exploring content on their own with technology due to their other conflicting beliefs. These issues imply that teacher beliefs may not resonate in their practices. A school culture emphasizing competition and a high stakes assessment system can discourage teachers from integrating technology into their classrooms. Thus, teacher beliefs influence ICT use in the classroom.

#### **IV. Conclusion [5]**

Information technologies are the result of knowledge explosion. These include hardware & software technologies and facilitate teaching learning process. Using Information Technologies learners are now able to participate in learning communities throughout the world. They are independent and free in choice of their programmes of study and access to the resources. They may learn collaboratively, share information, exchange their learning experiences and work through cooperative activities in virtual learning communities. Information technologies facilitate teaching learning process in more productive fashion. Similarly, the role of teacher is also different in new settings than in the conventional system. Teacher facilitates and guides the learners in their study playing the role of a coach or mentor. Now teacher is not at the center of the instruction and sole source of information as in conventional classrooms. He/she decides contents/experiences and/or activities, locates the resources and guides learners how to have access and utilize the information for required outcomes. In nutshell, information technologies are restructuring teaching learning process to meet the International standards.

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## 22. Online Ordering of Food using AI

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### **Abstract**

Within the food and beverage industry in Malaysia, there is an emerging new wave, the online food delivery (OFD) service. Not just restricted to the take-away and eating out, online food ordering is the new eating out. The emergence of the online food delivery services could be attributed to the changing nature of urban consumers. Despite the importance and the changing consumer behavior towards OFD services in Malaysia, studies that address the contributing factors towards OFD services among urbanites still remain scant. Hence, the objective of this research is to establish an integrated model that investigate the relationship of several antecedents (perceived ease of use, time saving orientation, convenience motivation and privacy and security) with the behavioral intention towards OFD services among Malaysian urban dwellers. The results revealed positive effect of time saving orientation (TSO), convenience motivation (CM) and privacy and security (PS) towards behavioral intention (BI) of OFD services. The findings provide OFD service providers and scholars with significant insights into what compels urbanites to adopt OFD services.

**Keywords:**– Online food delivery, behavioral intention, perceived ease of use, time saving orientation, convenience motivation, privacy and security

### **Introduction**

There is a huge food delivery market in Southeast Asia. While the food market is a trilliondollar business, the delivery market is only a small fraction of this market (Kandasivam, 2017). This presented a big opportunity for future growth. It is projected that by the year 2022, the food delivery business will grow to an annual revenue of USD 956 million, which is one of the fastest growing sectors in the food market (EC Insider, 2018). Within the food and beverage industry in Malaysia, there is an emerging new wave, the online food delivery (OFD) service. Not just restricted to the take-away and eating out, online food ordering is the new eating out.

In Malaysia, there are numerous food delivery companies with many offering online food delivery services. Among the companies are FoodPanda which is the first delivery company that started aggressively in Malaysia. Others in the market are companies such as DeliverEat, Uber Eats, Honestbee, Running Man Delivery, FoodTime, Dahmakan, Mammam and Shogun2U. Most of these food delivery services are concentrated in the urban cities such as Kuala Lumpur, Klang Valley, Penang and Johor Bahru. This is understandable because unlike other e-commerce services which are easier to scale with the reliance on 3PL delivery, food delivery services face the challenge of location and coverage boundary, while at the same time maintaining high customer satisfaction with on-demand delivery. Perhaps this is the reason that there are only few strong players in this industry without anyone being entirely dominant.

The emergence of the online food delivery services could be attributed to the changing nature of urban consumers. These consumers use food delivery services for a variety of reasons but, unsurprisingly, the most common reason seems to be the need for quick and convenient meals during or after a busy work day. The various food delivery services that are readily available take the hassle away from consumers to think about and plan meals, regardless of whether the consumer is preparing the meal himself, going to the restaurant and dining in or going to the restaurant and buying food to bring back to the office or home. Food delivery services have changed consumer behaviour so much, especially urban consumers, that using the OFD services have become normal and routine. More and more people are turning to food delivery in recent years because of the current pace of life as well as the opportunity to discover more restaurants that food delivery offers. For many busy urbanites, OFD services are a convenient option during a busy work day in the city. Many prefer this option of food delivery as this allow them to have fresh and healthy food at their offices or homes while they have the freedom to continue to work.

This is also an advantage as city dwellers can use OFD services after a long day at work, preferring to go home and relax instead of spending a few more hours out waiting for food or travelling to and fro just to get something to eat. It can be seen that the OFD services provide convenience and time savings for customers as they can purchase food without stepping out from their home or offices. The OFD services are slowly but surely impacting the food and beverage industry because of its potential to grow the business, ensuring higher employee productivity, delivering order accuracy and building important customers database

**Perceived Ease of Use**

## Time Saving Orientation[2]

Time saving orientation is the most critical factor to influence customers' motivation to use the technology-based self-service (Meuter et al., 2003). When an individual find himself lack of time due to daily activities, such as work and leisure activities, this will lead the person to look for instances where they could save time (Bashir et al 2015, Settle & Alreck, 1991). In recent years due to the hectic lifestyle, many people dislike the effort to look for food and waiting for the food at restaurants. They would prefer that food comes to them without much effort and to be delivered as fast as possible (Yeo et al., 2017). Time saving is one of the major contributory factors that influence behavioural intention of people to purchase online (Khalil, 2014). Shopping online is considered time saving because shoppers do not need to physically leave the current place to purchase something. Based on the research from Sultan & Uddin (2011), time saving has a positive effect on behaviour intention toward online shopping.

The researchers found that many people perceived that online shopping takes lesser time as it does not require them to waste time to travel out as compared to traditional offline shopping (where they need to be physically present at the store). Alreck & Settle (2002) reaffirmed that traditional modes of offline shopping is more time consuming than online shopping as customers do not need to travel out to face traffic jam, search for parking and also to queue in line to do payment. In another study, Alreck et al (2009), found that many consumers wish that they could save more time. Consumers tend to want to save time so that they could complete other urgent matters as soon as possible. Research from Ganapathi (2015), and Zendehtel et al (2015) have also shown a significantly positive effect of time saving towards behavioural intention to adopt online shopping.

**Privacy and Security**

Belanger et al (2002) defined privacy as the probability to access, copy, use, and destroy personal information of oneself. Example of personal information are name, phone number, mailing address, bank account, email address, password and so on. Due to the many highly publicized news on the breach of personal data by well-known companies, consumers are increasingly feeling insecure on how and where their personal information are used during online transaction (Flavian and Guinaliu, 2006). Security according to Kalakota and Winston (1997) is

threat which created potential incidents related to security of payments and storing of information through online transactions.[3]

Many customers avoid online purchase due to privacy factors, non-delivery service, credit card fraud, post purchase service and more. Zulkarnain et al. (2015) found that the degree of trust will affect customer's intention to purchase products online. They discovered that privacy and security has become the main concern for online shoppers. To ease people's minds about the issues of privacy and security, many websites have implemented policies to enable customers to verify, audit and certify privacy policies for online transactions (Ranganathan and Ganapathy, 2002).

#### **Conceptual Analysis for Future Research Propositions[4]**

The article review shows that sufficient studies have been conducted on online food shopping. As more people start shopping online, the number of articles on online food shopping is expected to increase. However, despite studies on online food shopping and business models remain rife, there are key gaps in research.

These gaps are a result of the majorities of the researchers' focus on highlighting their perspectives and largely ignore those of the consumers and businesses. Moreover, these studies do not consider crisis (e.g., COVID-19 pandemic) when making these future predictions. The forecasts made about future help in developing a better understanding of the various implications of ordering via mobile apps. Also, it provides a background for examining the emerging technologies in online food ordering. As such, the critical propositions reflected in the literature review propose the following four future research directions.

#### **Value Co-creation with Stakeholders**

From a business perspective, getting partners and investors on board is not easy and most restaurants tend to stay away from technology. Thus, the preposition made involves conducting research aimed at developing a better understanding of the customer and business' perspectives. According to Chen et al. (2018), setting the commission rates with restaurants is a major problem within the online food industry. Moreover, the majority of startups are depended on restaurants to deliver food at the customer's doorstep (Onyeneho and Hedberg, 2013). Hwang et al. (2020) argue that relying on technology is not the main focus of a restaurant because preparing food is its main core business. As such, even if an investor trusts a food startup, integrating technology within its business process will always be perceived as a high risk. The lack of

sufficient evidence on the business' perspective toward technology and online platforms make it more difficult for rescuers to tailor their studies to generate crucial insights that help in making better business decisions.[3]

One of the problems identified from the consumer's perspective is that most of the things mentioned in the online food menus are often not available. Instead, they act as click baits designed to entice online users to continue interacting with their platform and marketing content (Lara-Navarra et al., 2020). In rare cases, some clickbait links often forward online users to pages that require them to make payments, register, or even fill in their payment details. Consequently, a significant communication gap exists between consumers and restaurants while shopping on phone and online. While numerous studies examine the purchase intention of food among online shoppers, few highlight the inherent challenges experienced by consumers as they go about their day.

While it is crucial to investigate both perspectives, more studies need to be conducted on the customer ones. This is because most online businesses often find it difficult to deal with customers, but Ho et al. (2014) note that this is usually because they do not see things from the buyers' point of view.

The authors, however, refutes the popular phrase that "customer is always right" and notes that even when they are completely wrong, they can always win. For example, customers can criticize a business online or even refuse to pay their bills. As such, failing to grasp a customer's perspective can result in a meltdown with them which is always bad business. It is also essential for future businesses to take into consideration the fact that work is much more enjoyable and profitable when people work alongside the customer rather than against them. Thus, conducting more studies aimed at understanding customers can help develop the necessary recommendations to help businesses see things from their point of view.

One of the ways future studies can explore to better understand the customer's perspective involves exploring the issues related to empathy. Charles et al. (2018) note that empathy does not naturally to most people but it reinforces one's ability to understand and share the feelings of a customer by placing themselves in their shoes. Future studies should highlight how online businesses can ask questions about how their current and potential customers would feel in different circumstances. Also, future studies must examine how well online businesses can listen



to their customers. Afshar Jahanshahi and Brem (2018) notes that the first step in customer relations involves actively listen to them.

Finally, future studies must be able to provide recommendations on how online food businesses can grow trust and show respect to their customers. The propositions made with regards to the business and customers' perspective provides the background information for future studies. Also, bridging the current research gaps will help business adopt a more effective online model that maximizes customer satisfaction when purchasing foods. Based on the discussions above, this article suggests the following proposition to both identify the gap in the literature and the corresponding future research directions.

### **Conclusion**

The majority of studies examining online food shopping have provided sufficient evidence highlighting both the implications and benefits of e-commerce. However, most of these studies generalize all forms of online shopping and ignore the fact that shopping foods online is inherently different from buying other commodities. As such, the comprehensive academic review conducted helps at explicating the significant themes within the current literature. Hence, the critical propositions that reflected from these studies help in proposing the following four future research directions. [5]

They include conducting studies to highlight the customer and business' perspectives, making future predictions, understanding the implications of ordering via mobile apps, and examining the emerging technologies in online food ordering. The academic review and propositions made are significant to both researchers and online food stores as people across the world start embracing online shopping more than ever before.

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## 23. Online Ordering of Food using AI

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### Abstract

AI research has focused on improving the decision-making capabilities of computers, i.e., the ability to select high-quality actions in pursuit of a given objective. When the objective is aligned with the values of the human race, this can lead to tremendous benefits. When the objective is misaligned, improving the AI system's decision-making may lead to worse outcomes for the human race. The objectives of the proposed research are to create a mathematical framework in which fundamental questions of value alignment can be investigated; to develop and experiment with methods for aligning the values of a machine (whether explicitly or implicitly represented) with those of humans; to understand the relationships among the degree of value alignment, the decision-making capability of the machine, and the potential loss to the human; and (4) to understand in particular the implications of the computational limitations of humans and machines for value alignment. The core of our technical approach will be a cooperative, game-theoretic extension of inverse reinforcement learning, allowing for the different action spaces of humans and machines and the varying motivations of humans; the concepts of rational meta reasoning and bounded optimality.

**Keywords:-** Education, Environment, Information and Communication Technologies, Knowledge, Learning

### Introduction

The Artificial Intelligence tutorial provides an introduction to AI which will help you to understand the concepts behind Artificial Intelligence. In this tutorial, we have also discussed various popular topics such as History of AI, applications of AI, deep learning, machine learning, natural language processing, Reinforcement learning, Q-learning, Intelligent agents, Various search algorithms, etc.

**Benefits of AI in Education**

When we break it down, a student's goal is simple: obtain a degree or diploma proving their knowledge. AI can help students achieve this goal by streamlining the education process. By providing access to the right courses, improving communication with teachers and freeing up more time to focus on other aspects of life, AI can make a significant impact on the students' educational journey. A few examples are:

**Personalization**

Personalization is one of the biggest trends in education. With the use of AI, students now have a personalized approach to learning programs based on their own unique experiences and preferences.

**Tutoring**

While it's not uncommon for students to require extra help outside of the classroom, many teachers don't have the free time for students after hours. AI tutors and chatbots are a perfect solution in these scenarios. While no chatbot can truly replace an educator, AI tools can help students sharpen their skills and improve weak spots outside of the classroom.

**Quick responses**

There is nothing more frustrating than asking a question only to have it answered three days later. Teachers and faculty are often bombarded with repetitive questions on a daily basis. AI can help students find answers to their most commonly asked questions in seconds through support automation and conversational intelligence.

**Promoting Integrative Learning**

ICT enhanced learning promotes a thematic integrative approach to the teaching and learning processes. This approach eliminates the artificial separation between separate disciplines and between theory and practice, which characterises traditional approach (Mikre, 2011). In simple terms, when one is making use of technology in enhancing learning, then the individuals not only are able to acquire efficient understanding regarding practice, but they are also able to generate awareness in terms of various aspects. For instance, when individuals are working on a research project, then they make use of internet to acquire knowledge and understanding in terms of various topics and concepts. In additions, they make use of MS word in typing information. Hence, it can be stated that ICT is made use of to promote integrative learning.

**Conclusion**

We have only touched the surface of what Artificial Intelligence can accomplish. But it essential to realize that AI is meant to make our lives better. It can be considered a tool to assist us to rise above our circumstances. In the emergence of AI technology, we may need to adapt and reassess ourselves. We will need to be equipped skills-wise and knowledge-wise on how to handle and prosper in a world that is continuously changing and improving as days move on.

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## 24. Stock Market Analysis using AI

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### **Abstract**

The internet has made financial products and services available to more customers and eliminated geographical barriers. Earlier investors were solely dependent on their brokers but nowadays they are participating more in buying and selling of shares with the help of internet. E-trading has saved time, energy and money as it helps to access the market from any where at any time. The primary objective of this research paper is to analyze the impact of internet growth on the stock market transactions. The paper also discusses the current state of internet trading in India and particularly the scope of online trading market available in India. Nearly two billion people are connected to the Internet. During the last twenty years, the technology revolution has had an intense and irreversible impact on the world and Indian stock market has also witnessed these changes. From its formal inception in the 19th century, the Indian capital market has come a long way and can be said to be in a maturity stage, backed by a developed legal system.

**Keywords:**– internet, Online Stock Trading, market capitalization, Indian Stock Market

### **I. Introduction**

Online trading involves investment activity takes place over the internet and it does not require physical presence of the broker. The National Stock Exchange started the first form of online trading wherein user/investors can buy/sell stocks in a day without much paper work. Earlier it used to take around 60 days to buy/sell stocks in stock markets and the investor also had to go through loads of paper work. But thanks to Internet the wait has curbed and in the last ten years, Indian capital markets have recorded 1488% of growth in exchange turnover. India was introduced to the Internet in the early 90's and the use started to increase rapidly. India stands 5th in the list of countries by number of internet users. The Stock markets introduced

Internet trading (online-trading) in February 2002 which has brought a tremendous change in trading.

## **II. Stock Trading in India.[2]**

Almost all the significance firms of India are listed on both the exchange. The BSE is the older stock market but the NSE is the largest stock market, in terms of volume. It seems like an unnecessarily complicated process for moving money. But the blockchain has its advantages. They are also usually owned by one entity. Because of this nature, they could be open to fraud or to being hit by an attack that could cripple a network, unlike bitcoin's blockchain. Think about the blockchain as a beefed up database. It records all transactions in bitcoin, doesn't allow repeat payments, and requires several parties to authenticate the movement of the digital coin. With traditional methods of payment every transaction in the world is registered on privately-held databases owned by corporate and state entities. These databases are not accessible by the public and therefore closed. Facts and Figures of Indian Stock Market [3]

### **Trading Volume[3]**

The volume traders measures the total number of shares or contracts transacted for a specified security during a specified security during a specified time period. The remarkable aspect was that the trading volumes in the year 2009-10 showed a growth of 16.53 % over the trading volumes witnessed in 2007-08. In the year 2009-10, the trading volumes increased by 50.36 % to 4,138,023 crore (US \$ 916,709 million) from 2,752,023 crore (US \$ 540,142 million) during 2008-09. The average daily trading volume increased from 11,325 crore (US \$ 2,223 million) during 2008-09 to 16,959 crore (US \$ 3,757 million) during 2009-10.

### **Market Capitalization[4]**

The company with the highest market capitalization as of March 2010 was Reliance Industries Limited followed by Oil and Natural Gas Corporation of India Limited and NTPC Ltd. The total market capitalization of securities available for trading on the CM segment increased from 363,350 crore (US \$ 115,606 million) as at end March 1995 to 6,009,173 crore (US \$ 1,331,230 million) as at end March 2010. The Market capitalization witnessed an increase of 107.49 % during 200910 as compared to the market capitalization of 2,896,194 crore (US \$ 568,439 million) in 2008-09. As compared with 200708, the market capitalization in 2009-10 increased by 23.69 %. The market capitalization ratio of NSE was 97.49% as of March 31, 2010.

**On-line IPOs [4]**

An Initial public offering refers to the process of offering shares of a private corporation to the public in a new stock issuance. It is a fully automated screen based bidding system that allows trading members to enter bids on behalf of their clients. The on-line trading system of NSE is used by companies to make IPOs through book building. All bids received by the system are numbered, time stamped, and stored in the book till the last day of the book building process and the offer price is determined after the bid closing date. While ensuring efficient price discovery, this system reduces time taken for completion of the issue process. 342 companies have used the on-line IPO system of NSE by the end of March 2010.

**Internet Trading[4]**

In 1992 the internet based trading was first founded of the mainstream discount brokerage firms. The table below shows the growth of internet trading from the fiscal years 2006-07 till 2009-10. Chart-1 shows the internet trading volumes in the CM segment of NSE in comparison with the total traded volumes at NSE. At the end of March 2010, a total number of 363 members were permitted to allow investor's web based access to NSE's trading system. The members of the exchange in turn had registered 5,143,705 clients for web based access as on March 31, 2010. During the year 2009-10, 11.13 % of the trading value in the Capital Market segment (692,789 - US \$ 135,974 million) was routed and executed through the internet.

**Internet and Economic Growth [5]**

Governments can serve citizens much more quickly and at a much lower cost through e-governance. According to the report there are 2 billion internet users worldwide and as a sector, internet related consumption and expenditure is now bigger than agriculture or energy. The report further said that internet has a sweeping impact on growth, prosperity of a country and has created 2.4 jobs for every job that it has destroyed. According to a McKinsey report titled 'Internet matters: The Net's sweeping impact on growth, jobs, and prosperity', released at the e-G8 Forum held in Paris on May 24-25, 2011, internet contributed 5 per cent to the total gross domestic product (GDP) growth of India in the past five years compared with the average 3 per cent for BRIC (Brazil, Russia, India and China) economies. The Internet is now widely considered a fundamental infrastructure in the Organization for Economic Cooperation and Development (OECD) countries in much the same way as electricity, water and transportation. India, as an OECD member, must recognize access to the Internet as a basic right. Still, there are a

number of stumbling blocks that the technology needs to overcome to be viable across major organizations and industries at large. As per the report, companies are able to keep costs down, target customers better and bring goods and services to markets around the world much more easily. Individuals are able to compare prices, search hard-to-find items or information, communicate and learn in new, improved ways. "The Internet is a contributor to net job creation. Initiatives in the agriculture sector, such as 'mKrishi' in Madhya Pradesh, allow farmers to benefit from timely expert advice. The 'aAqua' project in Maharashtra uses the Internet to connect with farmers to address a range of concerns related to production, pricing, input and output supply. While jobs have been destroyed by the emergence of internet, many more have been created during the same period, including jobs directly linked to the internet, such as software engineers and online marketers as well as more traditional jobs, logistics to deliver online purchases," the report added. Moving towards an Internet-based economy can help fill the gaps that lead to poor performance in a traditional economy. The Internet is also promoting government services in a big way. Examples such as Aarogyasri in Andhra Pradesh are enabling end-to-end cashless services to citizens, and filling health sector gaps in doctors or basic infrastructure. Broadband-supported, community-driven initiatives such as Barefoot College in Rajasthan, Chanderiyaan in Madhya Pradesh and AirJaldi in Himachal Pradesh are having accelerated effects on citizens. HarVa is a greenfield project that serves as an outstanding example to demonstrate the causal impact of the Internet on income. One of the major ones is interoperability. Essentially, how will blockchains developed by one firm work with DLT run by another company? There's a number of companies as outlined before developing blockchain platforms. But there is no guarantee that the each one will be compatible with another. It can be likened to the early days of mobile operating systems, where there were several systems including iOS, BlackBerryOS, Android and Symbian. Now iOS and Android dominate the smartphone market.

## **II. Impact of Internet on the Growth of Financial Market [6]**

### **E-Commerce Market to Be Rs. 46,520 Crores In 2011[6]**

The internet has the potential to increase productivity growth in a variety of distinct , but mutually reinforcing ways. The internet commerce industry in India has seen a manifold increase in the last couple of years with the total market size increasing from INR 19, 688 crores by the end of 2009 to an estimated INR 31, 598 crores in 2010. The net commerce market size is



expected to grow by 47% and touch INR 46,520 crores by end of 2011. This was highlighted by a report on the E-commerce released by the Internet and mobile Association of India (IAMAI).

#### **Nation-Wide Broadband Connectivity Can Be Achieved In 3 Years[6]**

The internet also may be the most obvious it can transmit information quickly, conveniently and inexpensively. The Internet and Mobile Association of India (IAMAI) has said that an independent agency can ensure national broadband connectivity across the country within 36 months. This was said by the association in its response to the Telecom Regulatory Authority of India's (TRAI) new set of recommendations on the National Broadband Plan 2010. IAMAI fully supports TRAI's recommendations brought out in the consultation paper on National Broadband Plan. AMAI is of the view that the TRAI proposal alongside and in parallel with the developments in the market place viz., arrival of 3G and BWA will be able to bring in a true broadband revolution in India.

#### **Million Internet Users in India Witness Financial Transactions over Internet[7]**

Ministry of Communications and Information Technology, is of the opinion that the utility and relevance of digital commerce can be well understood by the fact that out of approximately 60 million internet users in India, nearly one third of this number are doing financial transactions over internet. Digital Commerce holds huge importance, especially for the Indian economic structure. There is a lot of potential for the rural population as the outreach is very important to enable the rural population to gain maximum without having to spend so much by saving on fuel, time and effort etc.

#### **III. Conclusion[8]**

Fast internet connection, if provided at lower prices can give a boost to digital commerce regime. The stock equity, bonds are debt. Bondholders are guarantee a return on their investment and have a higher claim than shareholders. Capital market plays a vital role in providing liquidity and the potential of the Indian capital market is immense. Although threats are growing and getting increasingly dangerous, but technology is available to enable secure e-commerce experience. Stock market development matters for growth as access to external funds allows financially constrained firms to expand [8]. The paperless trading environment has reduced manipulations to a large extent and financial markets have started rewarding companies. Security is also one issue which is acting as a challenge at the mindshare level of internet users Through digital commerce the rural user can access services and data easily and effectively. All we need

to look at carefully is to create a robust and safe infrastructure for carrying out this activity of users through online or mobile gateway.

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## 25. Research Paper on Concept of Work from Home using AI

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### Abstract

Due to the usage of technology, the traditional divide between work and life has been reduced to a minimum for most professionals. It became a challenging question for scientists and their employers as to whether working from home enhances their productivity and work-life balance. In light of the recent pandemic, the benefits and challenges of working from home became evident. The development of information communication and internet technologies has completely transformed higher education and training into online education through global universities. An online office model is proposed as a new system for supporting online education model, when online education is viewed as the next wave in higher education. In this article, the concept of "Working from Home" is analyzed along with its advantages to employers, employees, and customers. This model also allows the employee to travel less, eat better food, etc., and the provider to reduce office space and maintenance costs.

**Keywords:-** WFH, Work From Home, Remote Working

### Introduction

The world has witnessed, and continue to do so, a once in a century crisis in the form of Covid19 pandemic. It has not only resulted in unprecedented fatalities and infections among people of almost all nationalities but also wreaked havoc in every sphere of life, including business. In the absence of a vaccine and Highly infectious nature of the pathogen of Covid-19 coupled with the strict guidelines issued by the World Health Organization had forced the Government to take some of the measures in the form of nationwide lockdowns to arrest, as far as possible, the spread of the virus to Save Maximum Lives. Working away from the traditional office is increasingly an option in today's world. The phenomenon has been studied under numerous, partially overlapping terms, such as telecommuting, telework, virtual office, remote work, location independent working, home office. In this paper, we will use 'working from home' (WFH), a term that typically covers working from any location other than the dedicated

area provided by the employer. It is a modern work concept facilitated by the internet and mobility whereby an individual can work regardless of where they are physically located. As a result of restrictions on movement and the need to maintain appropriate physical distances between people to prevent the spread of the virus, businesses during and after the lockdown will not operate as usual. [1]

### **What is WFH**

Work From Home (WFH) gives flexibility to the employee and makes the employer's job easier because the employee can do his or her work from home. Employers are increasingly offering their employees the option to work from home, which helps to maintain a good work-life balance for the employee, as well as helping the company to accomplish its objectives. As a result of Covid-19, employers and employees alike have a vague idea of what WFH is, although it varies greatly based on perceptions. World of Work is dynamic, and it goes through transformation regularly. However, there are some epoch moments which revolutionizes the process of work and brings a tectonic shift in the way the work was done before. One such moment was the Industrial Revolution in Europe. Before the Industrial Revolution, works were mostly family enterprises and were performed mostly at home. India's world-famous handicraft, jewellery making of stones, carving work in ivory, wood, stone and marble, work of ironsmith, spice production all were family enterprises and hence performed at home. Post Industrial Revolution, the production process shifted from household to big factories and workers moved from their home-based enterprise to the factory shop floor. This phenomenon continued for over 200 hundred years. [2]

### **Advantages of Work from Home [3]**

In the early 2000's, many employers began recognizing the benefits of working from home, including the improved worklife balance that it can provide. The coronavirus pandemic caused that trend to change. Even if you don't think working from home will benefit your firm, employees with 26 weeks of service have a statutory right to request Flexible Working Arrangements such as home working, which you, as an employer, must seriously examine.

An increasing number of employees are working from home - or at least using it part-time - which clearly has many advantages for businesses, such as:

#### **Flexibility and Agility**

Employees working from home will be able to work more flexible hours and will be more willing to work earlier or later in the day. With no office to go to, they will be

better positioned to work from home. This may help you meet certain business needs eg if you are trading with customers residing in a different time zone.

### **Increased Productivity**

Working from home usually facilitates more focused work, since there are fewer interruptions, which would typically occur in an office setting. You may also find that employees will work longer hours as they can also use their time saved from commuting to start work earlier, later or both.

### **Better work/life balance**

Employees who used to commute will instead be able to take advantage of the time to use for themselves, resulting in a more harmonious work-life balance. Working from home eliminates the need for a commute to work that can be stressful to your employees. Time savings such as this also enables staff to get extra health benefits such as additional sleep, spending more time with family, exercising or preparing healthier meals.

### **Technology makes it easier**

The internet has made it possible for staff to be continually connected to the office. Tools such as Zoom, Google meet and etc. have made communication between colleagues and teams much easier and at times can lead to more efficient and effective meetings.

### **Financial benefits**

There is also the potential to save on office supplies, utility bills, and office space. In addition, HMRC may grant tax relief for working from home.

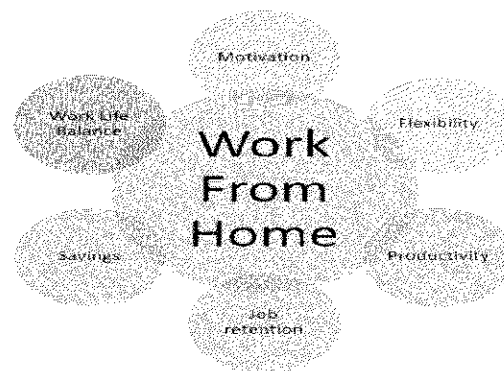


Fig.1 : Concept of Work From Home

### **Disadvantage of Work from Home**

Many people dream of being able to work at home. They imagine themselves in their home office zipping through tasks while sipping a cappuccino, savoring their new unparalleled efficiency. After all, compared to the standard office, a home office is an oasis,

and who wouldn't get more done if they didn't have to work surrounded by noise and constant interruption, and have to waste time attending useless meetings? The good news is that the number of meetings a person who works at home has to attend goes way down. [4]

Though there are certain drawbacks to working from home, most of them apply to those who work from home full-time rather than part-time:

### **Lack of Motivation**

When you work from home, it can be challenging to rise with the same energy as you would do in an office and motivate yourself to get to work. For homebased work to be successful, you must be self-disciplined.

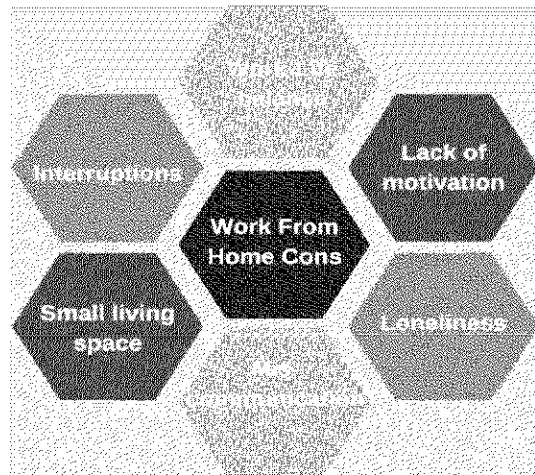


Fig 2: Disadvantages of Work From Home

### **Loneliness**

Some people who are accustomed to working in environments where they are constantly interacting with colleagues may find working from home to be lonely. Spending a great deal of your time working by yourself and independently at home can make you feel quite isolated. Visiting friends and family can reduce loneliness and isolation as a foreign worker. Some remote workplaces have team or recreation functions designed to encourage socialization.

### **Work-Life balance**

Another thing that one must confine mind when performing from house is that while you're working you want to pack up your personal life and not find yourself being agitated all the time. you want to learn to balance out your personal and work life reception. Although working from home offers you the prospect to balance your home life alongside

your job, it can also be challenging to form a particular separation between your career and personal life. Set clear boundaries between your work hours and personal time, and communicate these boundaries with others in your home.

### **Small living space**

One thing that most people are concerned about when working from home is that they end up losing their living space as they now have to create a home office. This is a problem that is faced by people who already have a small space for living with pets or kids.

### **Interruptions**

Work from home with kids may be difficult sometimes as in between an important video conference or when you are working on a deadline. But, isn't it adorable when a funny friend or a cute kid pops up in the video?! Distractions just like the television or household chores can affect how you perform your job. Too many distractions can cause a decrease in your productivity and motivation. You'll avoid this by limiting anything that you simply find distracting in your home. Use noise-cancelling headphones and play relaxing music to dam out noises like traffic and neighbourhood activity.

### **Miscommunication**

Sometimes working from home can lead to miscommunication due to a weak internet connection or maybe because one is not able to express themselves in a better way as opposed to when they converse with someone face to face.

### **Jobs Suited for Work from Home**

Due to several limitations associated with nature of the job, it is evident that not all work can be performed from home. In research as well as in practice there are not many studies to show how many fractions of the total workforce can perform their task by WFH arrangements. However, there has been some recent development in this direction and through newer research, we can do some predictive analysis. One of the studies was conducted by the economists from the University of Chicago. Their research was based on the American Work Force and according to their estimation, 37% of the jobs of the US can be performed effectively from home. A similar study was conducted by some Norwegian economists and they almost came with the similar number and as per them 36% of the total work can be done through WFH, however, there was significant variation in each category of work.

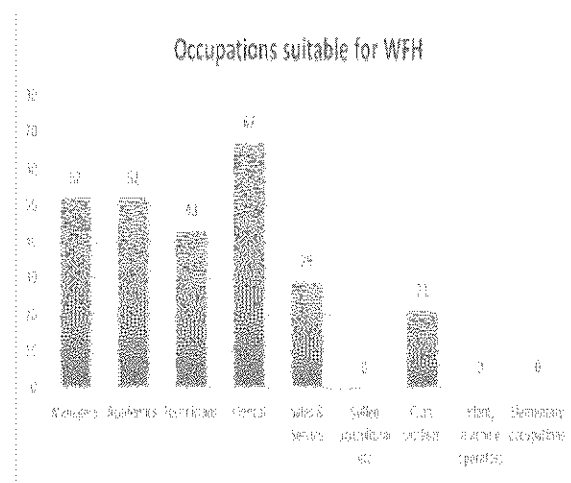


Fig.3: Statistical View

It is apparent from the study that Managerial, Academics, Clerical jobs are most suited for WFH whereas skilled agricultural, forestry and fishery workers, plant, machine operators, and assemblers have almost no scope for WFH. We have to be very careful that these data are from high-income countries and can't be replicated in the Indian context in entirety where all the necessary infrastructures for WFH have recently started to evolve. However, at least, we can draw some parallels. [5]

### Conclusion

There is no ending to Covid-19's vicious web anytime soon, and this public health emergency is already causing an economic downturn in almost all countries. Despite this, every economic shockwave leaves its mark, and the financial shock induced by Covid-19 will leave a deep mark. How demonetization, which was also disruptive and came out of nowhere and led to the outcome in digital deals, we can also expect, in the form of WFH when the dust of pandemic will settle. If tapped properly, it will create tremendous new prospects for the businesses. According to one Deloitte report Female labour force participation in India is just 26%, which is abysmally low in comparison to even some South Asian countries. Unemployment rate among differently abled persons in India is more than 70%, which is very high. WFH provides a unique opportunity for the organisations to make their workforce more inclusive by increasing the participation of the left-out group.

Employees need to be more proactive than ever to comply with this agreement as the pool of talent in the workplace will be extremely wide, diverse and extremely



competitive. Lastly government has to play most significant role by providing WFH friendly policies and by enabling infrastructure across the length and breadth of the country.

Adopting new work model will need a lot of improvisation and changes. However, it is well established fact that generally change is being resisted by humans as it makes them uncomfortable. Yet, successful organisations or individuals are quick to adopt it. Finally, to quote Mark Sanborn, past president for the National Speakers Association, US - "Your success in life is not based on your ability to simply change. It is based on your ability to change faster than your competition, customers and business."

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## 26. Work from Home using AI

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### **Abstract**

In January 2020, the World Health Organization (WHO) declared the outbreak of a new coronavirus disease, COVID-19, to be a public health emergency of international concern. Currently, in several countries globally, this pandemic continues to enforce the temporary closure of all nonessential shops and services aside from supermarkets and pharmacies. Workers in countries that are at a high risk of infection have been asked to work from home, as cities have been placed under lockdown. Even curfews to combat the spread of the virus have been imposed in several countries, with all this signaling an unprecedented disruption of commerce. Companies are facing various challenges regarding health and safety, supply chain, labor force, cash flow, consumer demand and marketing. People in the thousands are dying every day from the virus's symptoms, while a public health issue has forced the world to come to a halt and rethink what a sustainable future for our planet and existence is. These drastic recent events have raised the deliberation by the authors to redefine the concept of sustainability.

**Keywords:**– COVID-19; coronavirus; sustainability; public health; human health; definition

### **Redefining Sustainability**

Prior to COVID-19, the world was highly focused on increasing environmental problems and social issues that many believe arose from controversial economic policies and the global trade. Sustainability has been a term and concept used to bring balance and create responsibility for economic activity and development. The current definition came from the 2005 World Summit on Social Development, in which three pillars of sustainability development were identified

1. The three goals—economic development, social development and environmental protections—have ever since served as the foundation to several standards and certifications in

sustainability. The concept is well adopted by all stakeholders in various areas of private and public sectors

2. As sustainability discussion and awareness advanced, the UN, in 2015, developed 17 Sustainable Development Goals that are meant to ensure no one is left behind in the success of our society. These include: 1. No poverty; 2. Zero hunger; 3. Good health and wellbeing; 4. Quality education; 5. Gender equality; 6. Clean water and sanitation; 7. Affordable and clean energy; 8. Decent works and economic growth; 9. Industry, innovation and infrastructure; 10. Reduced inequalities; 11. Sustainable cities and communities; The general and most used definition of sustainability is “meeting the needs of the present without compromising the ability of future generations to meet their needs”

3. In this article, we are proposing to rethink and redefine sustainability as the intersection of the economy, environment, society and human health. The significance of adding human health as one of the sustainability developments goals can be seen through the results of the current COVID-19 pandemic. It is practically impossible for life to go on as usual when the health of the society quite dramatically crumbles down due to a human health risk of global magnitude. Earlier, the sustainability pillars had been addressing issues that touch all of us and connect us globally. Economic, social and environmental issues are such, and the role of human health has been seen more as a local, individual-level topic. Interestingly, in the sustainable development goals, it can be seen that the third goal is ‘Good Health’

4. This obviously includes the human health aspect that we desire to include in our definition of sustainability. However, it is important to distinguish the difference between the UN’s sustainability definition, and the three pillars. The three pillars, as stated above, are the most widely used definition of sustainability, with health not being an aspect of it. From a conceptual perspective, we strongly feel that adding human health as the fourth pillar or dimension to the overall definition of sustainability is a logical and valid redefinition step, evidenced by the overwhelming importance of health, and the fear of losing it, as depicted by the current COVID-19 crisis. Looking at some examples of UN sustainable development goals (SDGs), SDG 2—no hunger—is an important requirement for every individual to have access to. However, with the increase in overall wealth that the economic pillar is responsible for, most humans will not experience hunger. Further, in the countries where a majority of people experience hunger, it is mostly due to a struggling economy and corrupt political environment,

which the social pillar accounts for. ‘No Hunger’ is an important goal for a society to aim towards, but it does not need to be a separate pillar due to the fact that two other pillars—economy and society—include it in their actions. However, physical and mental health needs to be a separate fourth pillar and not stand under any of the other three, because of its importance in human survival and the sustainability of civilization. It can be articulated that the term ‘society’ includes the human health aspect, but in everyday use, society has become a term that defines only the social wellbeing of humans. “Socially sustainable communities are considered to be equitable, diverse, connected and democratic and provide a good quality of life”

5. As such, none of these terms include the physical and mental wellbeing of humans. COVID-19 affects physical health most directly, but the impact on mental health also exists

6. Factors that affect mental health through COVID-19 include economic instability, domestic violence, substance use, derailment from regular schedule, and even insignificant things, like lack of sunlight

7–8. These have a great impact, but the above factors only consider the general population and not the toll on mental health for health care workers. Not only are healthcare workers in constant fear for their lives, they are also scared that they could potentially infect a family member they closely interact with

9. This takes a toll on their mentality that is unmeasurable in the current circumstances. Physical and mental health is closely related, and one taking a considerable hit will greatly impact the other.

### **Sustainability Impact of COVID-19**

The pandemic we are facing has not only affected the physical health of hundreds of thousands of people. With its spread, the economy has plummeted to record lows, social issues such as domestic violence has increased, and global animal species have started to become threatened from the decrease in conservation efforts by conservationists who are quarantining themselves from COVID-19 [11]. Additionally, conservation funding is seeing one of the largest funding downfalls in history from events being cancelled that were supposed to raise money for conservation efforts

10. On social media, countless pictures and videos of animals roaming the streets are emerging due to decreased of human activity. Many applaud this freedom for animals as a positive impact of COVID-19 - however, this is a fallacy because species that are in most danger

of eradication are ones that constantly need human intervention to survive. These animals are now being left uncared for. For example, in Africa, a massive ecotourism business supports wide conservation efforts toward protected lands near Mount Kilimanjaro

11. While most consider human activity to be a detriment to environmental flourishing, in reality, non-harmful human activity can be seen as important as food and water for the survival of certain species. The global economic fallout from COVID-19 has been devastating, with people having lost jobs, and employers now having no means to support their employees while they are losing business and not able to pay their business's rent. Wall Street set a lot of records recently, and the spread of coronavirus has brought a dramatic end to America's longest bull market when the Dow Jones Industrial Average (DJIA) suffered record losses mid-March.

12. Large industries, such as the airline industry, have begun to suffer insurmountable losses—so much so that they are now asking for governmental support in the form of bailouts

13. The coronavirus pandemic will also create more pressure on corporations to weigh the efficiency and costs/benefits of a globalized supply chain system against the robustness of a domestic-based supply chain. Switching to a more domestic supply chain would reduce dependence on an increasingly fractured global supply system

14. However, while this would better ensure that people get the goods they need, this shift would likely also increase costs to corporations and consumers. The toll that society has taken is mostly related to the inequality gap. The wealthiest fifth of Americans have made greater income gains than those below them in the income hierarchy in recent decades. As high-salaried professionals, they live in Internet-ready homes that will accommodate telecommuting, and in this crisis, most will earn steady incomes while having necessities delivered to their front doors [16]. The bottom 80% of Americans lack that financial cushion. Many will struggle with job losses and family burdens. They are less able to work from home, and more likely to be employed in the service or delivery sectors—jobs that put them at greater danger of coming into contact with the virus [15]. Furthermore, the economic inequality gap and political power have always had an inverse relationship with each other; when economic inequality goes down, the more voiceless an individual gets. The widening income gap has also fuelled a class-based social disconnect, which has produced inequitable results in education [16]. The new reality for the education system that COVID-19 has created involves the use of online learning, but it can be said that only the wealthy have access to a stable internet connection and

technology that enables this type of learning. As such, economic inequality—fueled by the rise of a public health crisis—is now contributing to the collapse of one of the three pillars: society.

### **Conclusions and Recommendation**

The authors of this article propose the introduction of a fourth pillar of sustainability: human health. The emergence of public health issues, that remain on the rise, has reprioritized the sustainable development goals that the UN listed. The UN currently has an individual goal (SDG 3) that includes the health of a society in sustainable development. However, its separation from all the other goals implies that it is one of many, and not an essential part of the survival and sustainability of mankind. The fact that health is no longer only a demographic or an individual-level issue, but rather a global pandemic, shows the true nature of its importance, and its impact helps create a fourth pillar of global sustainability. Author Contributions: Conceptualization, M.H.; methodology, M.H. and N.D.; formal analysis, N.D. and M.H.; investigation, N.D. and M.H.; resources, M.H.; data curation, N.D. and M.H.; writing—original draft preparation, N.D. and M.H.; writing—review and editing, M.H. and N.D.; visualization, N.D. and M.H.; supervision, M.H.; project administration, M.H.; funding acquisition, M.H. All authors have read and agreed to the published version of the manuscript. Funding: This research was funded by North Carolina State University. Conflicts of Interest: The authors declare no conflict of interest.

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## 27. The New Future of Work

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### **Abstract**

"Work from Home" has turned into the new typical during the Covid'19 pandemic. The Information Technology monsters organizations are thinking about 'Work from home' as a long-lasting answer for the expanding rental expenses and overhead expenses. Telecommute has not impacted the usefulness of the representatives by and large. IT Employees likewise remain to benefit in numerous ways as far as adaptable working, diminished travel, home environment, less contamination and so on The review means to recognize Factors impacting their insight and the Challenges looked by them during telecommute.

**Keywords:-** Telecommute , work from home model, online office the executives, ABCD Analysis.

### **Introduction**

Telecommuting is characterized as individuals working from their home or from other area of their decision other than the functioning region by instalment which is given by the business. Since the development of the systems administration from home shows the worker can complete their work with in their own premises In the present developing world there is a pressing requirement for working at home. To further develop the worker maintenance during the occupied and stress filled life we require some recreation time. Through telecommuting you can have free access towards a particular occupation through less breaks from individual representatives in the workplace and correspondence time is additionally more extensive. (overall there could be no legitimate scales to gauge worker usefulness, every association utilize a special size of measure to monitor this, henceforth in this review the aggregate positive connection among's underlying and social elements of virtual work experience is considered as the scale to quantify the huge change in representative efficiency.



## Working from Home Model

### Modeling Working-from-Home Decisions

The quantity of representatives telecommuting has significantly increased Working from home has huge advantages for both the business and the employee. As per the new investigations led regardless of whether the area of the review is distinctive the outcomes accomplished as far as the result contrasted with the review at available time is fairly comparable. The records kept by an overview office showed a lot of expansion in usefulness procured by the representatives at home and they worked a greater number of hours than that of the work done in an office.

### Methods of Working from Home

The individual who wish to telecommute are people and who need extra pay or a parent who wishes to procure pay and remain at home with kids, this is an ideal answer for them. There are different sorts of work, which can make at home.

#### 1. Call centers: Selling the Time and Voice

Assuming that you have an extraordinary phone voice, a capacity to coordinate data rapidly and a quiet place in your home to work, you could bring in cash working for a call community, call focus implies don't have somebody to answer their telephones 24 hours every day. The calls are steered to a call place. and afterward conveyed to people who work from their home. These laborers are furnished with PC and programming are they can work client's inquiries.

#### 2. Selling home made products

Assuming individuals are having thoughts of making delightful things at home, this is assists them with providing the items while sitting at home. Home made items are given no indications of halting. For example Gifts, Clothes, Vegetables (ranchers) and so on This estimation and others are purposeful, utilizing details that expect your paper as one piece of the whole procedures, and not as an autonomous report. Kindly don't reconsider any of the current assignments

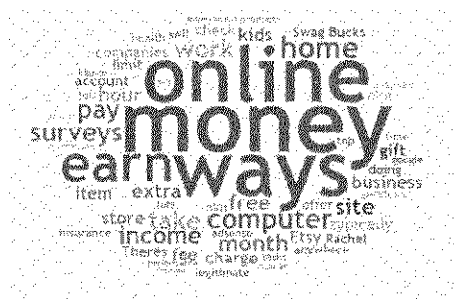


Fig 2 selling home made products .

### 3. Consultancy

Advisors offer their administrations or guidance for a free. Advisors are people, certain individuals use specialists for charge or monetary guidance, while others might pay an expert to train them how to set up and keep up with the works. Essentially in the event that expert is demonstrated their abilities in a space, they can showcase theirself as an advisor and offer types of assistance from home.

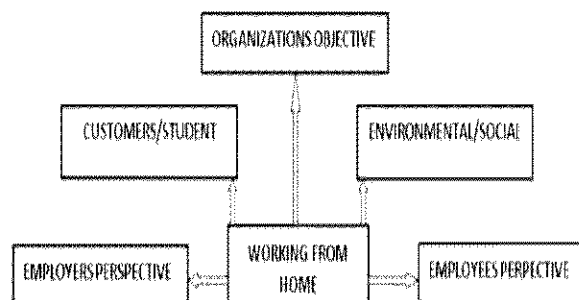


Fig. 1 : Block diagram of issues affecting 'Working from Home' model

### 4. ABCD Analysis of Working from Home Model

Benefits, Constraints and Disadvantages (ABCD) of a plan of action can be utilized to investigate and comprehend the model viably. According to this investigation procedure the viability of a plan of action can be concentrated by distinguishing and examining the benefits, advantages, requirements, and burdens by considering different issues like authoritative destinations bosses and representatives point of view, client/understudy viewpoint and ecological social forthcoming as in the square graph of issues influencing telecommuting model.

Home working likewise enlarges the base from which one can enlist, supporting their odds of selecting effectively. The spread of home working is opening up another scope of opportunities for the manner in which organizations can work and design themselves.

#### Organizational Issues

Liberating Work from the limitations of area and time through Information innovation upholds new examples of work, with more noteworthy adaptability in area and time. Working in a specific area - the workplace - throughout a specific timeframe - the workplace day - is a critical element of the manner in which modern work has been coordinated for north of two centuries. This method of working enjoys numerous undeniable benefits: for people: 'it structures their time 'it gives them social reach, 'it provides them with a pride, of worth of personality. For the association, 'it grants control and coordination of work 'it makes representatives noticeable -

henceforth they can be directed, assessed, and created 'it commands the communication important to get agreement on authoritative objectives It addresses a customary, stable construction, to which the work can be acclimated. Most by and large, on the grounds that there is an inclination that the manner in which they customarily have made due. Despite the fact that it can bring incredible advantages, working with different associations is more complicated than working alone. The achievement lays on a mix of formal and casual methods of accomplishing great working connections on both a hierarchical and a singular level.

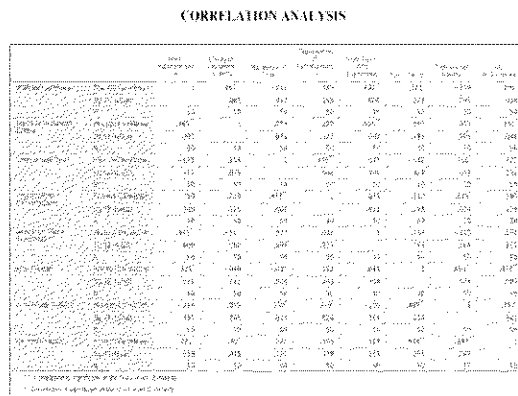


Fig 2 correlations analysis .

**Technological Issues**

Innovation is being utilized in pretty much every organization to achieve explicit assignments. Innovation has changed the manner in which individuals work and it has brought some fun at work, it lessens on human mistakes which can be brought about by a lot of work or stress. Business advancements like PCs, tablets, interpersonal organizations, virtual gathering programming, bookkeeping programming, client the executives applications, thus considerably more have taken out working environment limits and they have likewise worked with in the development of data at working environment which speeds up fast decision making at any working environment.

**Customer’s Issues**

Sooner or later, everybody in business needs to manage a steamed client. The test is to deal with the circumstance such that leaves the client thinking you work an incredible organization. Assuming you're fortunate, you can even urge the person in question to fill in as an energetic backer for your image. All things considered, numerous clients don't try to whine. They essentially leave and purchase from your rivals. Research recommends that up to 80 percent of

clients what leave's identity was, truth be told, "fulfilled" with the first organization. Clearly, consumer loyalty isn't sufficient. Organizations these days need to emphatically amuse clients to procure their dedication. It might appear to be unreasonable, however an entrepreneur's capacity to successfully manage client grievances gives an incredible chance to transform disappointed clients into dynamic advertisers of the business.

PERCENTAGE ANALYSIS - GENDER

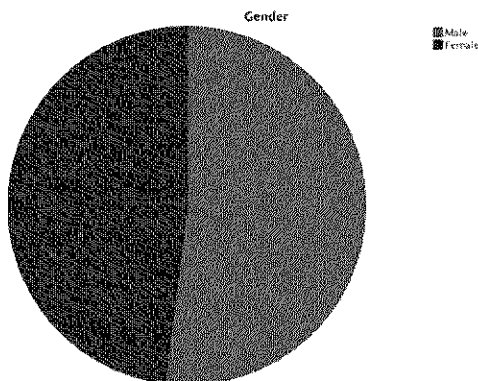


Fig 3 percentage analysis of gender .

**Constituent Critical Elements as Per ABCD Model**

As per ABCD framework for Working from Home model analysis, the factors affecting under organizational, operational, technological, employer / employee, customers and social environmental issues are identified. The constituent critical elements of these factors are listed under the four constructs - advantages, benefits, constraints and disadvantages of the ABCD technique and tabulated in tables 1 to 4.

Table 1: Advantages of Working from home model

Sl.No.	Issue	Factors affecting	Constituent elements
1.	Organisational Issues	1. Less Investment 2. Diverse People or Workforce 3. New pattern to work 4. Organisational worth	1. High return 2. Specialized Individuals 3. Readiness to Change 4. Revenue generation
2.	Operational Issues	1. Man power Utilisation 2. Cost effective 3. Less Time consuming 4. Flexible	1. Optimum utilization of resources 2. Less cost-higher return 3. Travel time reduced 4. Flexi time
3.	Technological Issues	1. High level of technology 2. High dependency on technology 3. Expand 4. Talent	1. Preparedness of Employees 2. Quick & Instant 3. Employee engagement
4.	Employers and employees Issues	1. Reduces staff cost 2. saving of office space 3. Balancing life & work 4. Flexible working option	1. Control mechanism 2. Increases earning 3. More productive 4. Manpower supply more
5.	Customers Issues	1. Work from anywhere 2. Faster service 3. Any time availability 4. Price	1. Enhance life 2. Competition 3. Networking 4. Affordable
6.	Social / Environmental Issues	1. Employment generation 2. Flexible working conditions 3. Stakeholders satisfaction 4. Eco friendly	1. Creating opportunities 2. Clean environment 3. Employee Relationship 4. Hazards minimized

**Table 2 : Benefits of Working from home model**

Sl. No.	Issue	Factors affecting	Constituent elements
1.	Organisational Issues	1. Financial stability 2. More productivity 3. Attracts & Retain staff 4. Employer brand	1. Less investment in terms of office space. 2. Working at your risk 3. More supply of manpower 4. Royal Employees
2.	Operational Issues	1. Improved quality 2. Operational efficiency 3. Networking 4. Speed	1. Quality of work 2. Increases 3. Maintenance cost is less 4. Quick result
3.	Technological Issues	1. Availability 2. Technical superior 3. Improves communication 4. Ability to handle	1. Cheap & affordable 2. Latest technology 3. Formal Vs. Informal 4. Easy & safer
4.	Employers and employees Issues	1. Saves Employer investment 2. Reduces unscheduled absence 3. Organisational structure 4. Mutuality	1. Equatable load 2. Better performance 3. Virtual 4. Interaction/ Networking
5.	Customers Issues	1. Freedom of choice 2. Matching expectation 3. Fitting to the budget	1. 24x7 service 2. Customer Vs Employees 3. Paying capacity of customers
6.	Social / Environmental Issues	1. Reduces traffic jam 2. Harmony with nature 3. Less stress 4. Improved economy	1. Pollution 2. Green habitat 3. Adaptation 4. Better living Condition

**Table 3 : Constraints of Working from home model**

Sl. No.	Issue	Factors affecting	Constituent elements
1.	Organisational Issues	1. Virtual organizational structure 2. Type of Business strategy 3. Leadership style	1. Role conflict 2. Not suited for manufacturing sector 3. Growth strategy 4. Democratic
2.	Operational Issues	1. Scale of production 2. Labour force 3. Suppliers 4. Finance	1. Machinery 2. Skilled 3. Just in time 4. Healthy cash flow
3.	Technological Issues	1. Full automation 2. Implementation expenses 3. Security breaches 4. Intensive training	1. Costly 2. Cost of hardware & software 3. Access to confidential data 4. Skilled labour force
4.	Employers and employees Issues	1. Makes employees lazy 2. Communication 3. Difficult to maintain skilled staff	1. Difficult to manage home & office 2. Causes distraction 3. Training 4. Motivating benefits
5.	Customers Issues	1. Reward system 2. Physical non availability 3. Customer tech savvy 4. Complicated products 5. Miscommunication	1. Employees not in work place 2. Customer training 3. Educated customer 4. Communication medium
6.	Social / Environmental Issues	1. Social media 2. Too much information 3. Occupational hazards	1. Bad reasons 2. Choice of Good Vs. Bad 3. Computers- Phone/Laptop 4. New Diseases

**Table 4 : Disadvantages of Working from home model**

Sl. No.	Issue	Factors affecting	Constituent elements
1.	Organisational Issues	1. Virtual 2. Assignment 3. Disassociation 4. Organisational type 5. Organisation strategy	1. Reporting authority 2. Weak culture Sector 3. Long/Short term
2.	Operational Issues	1. Planning 2. Co-ordination becomes difficult 3. Operational control	1. Difficult 2. Tangible to intangible 3. Budget control
3.	Technological Issues	1. Disconnectedness 2. Distractions 3. Expensive 4. Crimes	1. People from people 2. Games/ Shopping etc. 3. Purchasing cost 4. Frauds
4.	Employers and employees Issues	1. Labour unions 2. Discouragement 3. Brand building 4. Absence of knowledge	1. Membership 2. More personal 3. Difficult 4. Continuous improvement of workers
5.	Customers Issues	1. Availability of Employer 2. Fun environment 3. Organisational social entity	1. Race to office 2. Lost 3. Lost
6.	Social / Environmental Issues	1. Generating e-waste 2. Face to face interaction 3. Fewer employment opportunities	1. Computers/ Mobiles 2. Lost 3. Less work force

## **Conclusion**

Based on ABCD analysis for the business model “working from home” various factors affecting the issues of the model along with their constituent critical elements are identified and analyst. It is found that the factors supporting advantages and benefits are more effective compare to constraints and disadvantages of this model, so that working from home model may become more popular from the prospective of employers and employees in the organization in the future.

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## 28. Benefits of Health Fitness Apps during Pandemic

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### **Abstract**

Being fit truly and intellectually is each person's definitive craving. This need has been acknowledged by the trailblazers behind the improvement of wellness applications. To serve the different necessities of clients, these applications offer personalization and furthermore offer eating regimen and nourishment other than exercise and exercises. The applications have been an incredible help to individuals who don't have the opportunity to visit wellness focuses. Additionally it gives cost free exercise rules and diet bundles. Many individuals who have understood the significance of these applications in their day to day routine have begun utilizing such applications. This review plans to comprehend the client's position on wellness applications accessible in cell phones. Essentially, the review centers around the adequacy of wellness applications as far as different variables like time, cost and availability. Likewise it delves into the justifications for why these applications are liked over wellness places. Essential data in regards to different related viewpoints was gathered through essential information from 100 respondents. The concentrate likewise insinuates on the resources to increment and further develop the client interest towards utilizing the applications.

**Keywords:-** Fitness, Personalization, Mobile Devices, Effectiveness, Time, Cost, Accessibility, Customer Participation

### **Introduction**

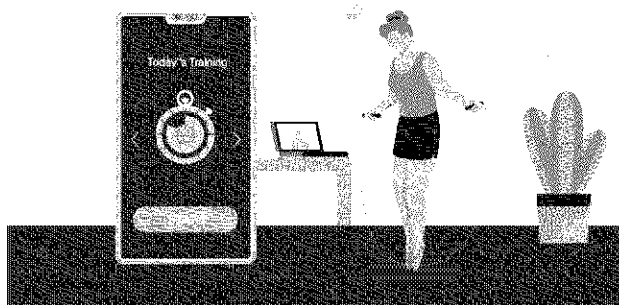
An application is a program which fills some unmistakable role. It has now turned into a fundamental piece of the human body. The greater part of the applications assume a significant part in one's everyday life. The applications have turned into a basic piece of living souls. Applications can be gotten to utilizing different portable processing gadgets which have utilized these applications quiet. Initially the applications were intended for email, contacts, schedule,



and so forth yet the expanded public interest turned into the justification behind its extension to different regions, for example, portable games, GPS benefits, re-energize and ticket booking offices, wellness administrations bringing about large number of applications accessible at different application conveyance stages.. . These applications are progressively becoming famous among undergrads. These understudies find the applications valuable for further developing dietary patterns or following an activity schedule. The utilization of applications has expanded because of different reasons like more prominent protection, straightforward entry, time limitations, and diminished expense when contrasted with wellness focuses

### **Fitness Apps**

In the course of recent years, the impact of application innovation is expanding which influences the medical care framework viably. The epic flourishing of wellness applications has upgraded starting around 2014 seeing a greater number of than a 50% expansion in its use inside a time of a half year. When contrasted with other applications, the wellness applications become 85% quicker than others. The notoriety of wellness applications accompanied its propelling element of incorporating wearable innovation which assists clients with dealing with their work out schedules. The quantity of clients for the applications has expanded gigantically in the course of recent years. The application assists clients with recognizing their every day exercises like running, strolling, diet, and so on and investigate how it adds to their general wellness. This way the wellness application goes about as an individual manual for its clients. All around, one can view the wellness application as a "individual coach". Wellness applications come in four unique variations to serve the clients different requirements. They incorporate the accompanying:



**1. Action Tracker:-** They help in following every one of the day by day developments of a singular like strolling, running, running, cycling, and so forth, utilizing versatile sensors to assist client with investigating his activities.

**2. Fitness coach:-** This application is useful to people who don't want to go for wellness classes and those having occupied plans for getting work done. They go about as a wellness mentor and let clients make their preparation plans. It additionally furnishes synchronization with wellness trackers.

**3. Diet and Nourishment:-** This application is most appropriate to wellbeing cognizant individuals who wish to have a reasonable eating routine. It furnishes clients with the healthy benefit of the food they devour and furthermore spurs them in losing or putting on weight.

**4. Yoga and contemplation:-** The application assists clients with their physical and mental wellbeing. It gives unwinding to body and mind and furthermore beats pressure

**II. Research Methodolog**

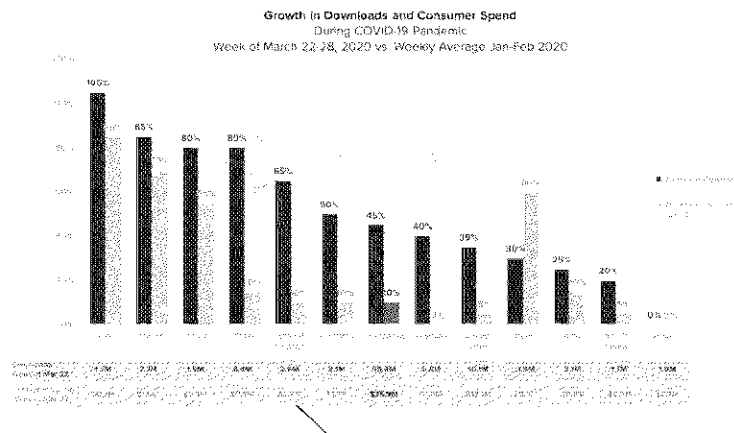
For conducting the study, convenient random sampling technique was applied. The primary data was gathered from the users through personnel interview and questionnaires. Secondary data was collected from various website, journals and publications necessary to treat the equation as a graphic and insert it into the text after your paper is styled.

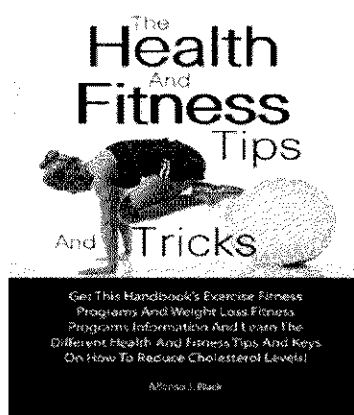
**III. Objectives**

- To comprehend client points of view about wellness applications.
- To comprehend the effect of wellness application on clients.
- To dissect the adequacy of wellness application on working on client's wellness.
- To concentrate on the effect of wellness application to enhance time and cost.
- To comprehend whether wellness application is liked over wellness places.

To comprehend the notoriety of wellness applications among users Some Normal Mix-

ups





#### IV. Scope of the Study

This examination is eminent as it is useful in breaking down the adequacy of the wellness applications in working on the soundness of the clients. The majority of individuals are aware of their wellbeing and needs to stay fit. In any case, many think that it is hard to go to wellness focuses because of different requirements like expense, time and availability. All things considered, the significance of these applications is expanding today. This examination helps in tracking down the justification behind picking these applications over wellness habitats and how it works on clients' wellbeing to "on the other hand" (except if you truly mean something that alternates).

This research is remarkable as it is useful in dissecting the viability of the wellness applications in working on the soundness of the clients. A large portion of individuals are aware of their wellbeing and needs to stay fit. Nonetheless, many think that it is hard to go to wellness focuses because of different imperatives like expense, time and availability. Thusly, the

significance of these applications is expanding today. This exploration helps in tracking down the justification for picking these applications over wellness communities and how it works on clients' wellbeing to "then again" (except if you truly mean something that substitutes).

#### **V. Statement of the Problem**

In this bustling society, individuals think that it is hard to commit time for their wellbeing and the expense of getting to wellness focuses are exceptionally high. this exploration is attempted to concentrate on the clients' points of view on clients' wellbeing. these days the utilization of such applications has expanded quickly as everybody is having a bustling existence. so this review is extremely successful as it assists with knowing the amount these applications impact the grown-up wellbeing just as to track down the effect and impact of wellness applications on working on the grown-up wellbeing for minimal price

#### **VI. Literature Review**

Joshua h west, p. cougar lobby, carl l hanson, michael d barnes, christophe giraud-transporter and james barrett (2012) in their paper "there's an application for that: content examination of paid wellbeing and wellness applications" leads an emotional investigation of the composed understanding given by designers. the review looks at the possibility of applications in impacting the shopper conduct. the more costly the application, more dependable it is. applications should give more significance to general wellbeing practices and must be created by such requirements.

Brad millington (2014) in his paper "cell phone applications and the portable privatization of wellbeing and wellness" leads a broad exploration on the notable cell phone wellness applications. it brings up how the applications help clients to connect with the remainder of the world. it likewise presumes that the applications spot incredible accentuation on movement following to advance wellness. juliana chen, janet e cade and margaret allman-farinelli (2015) in their paper "the most famous cell phone applications for weight reduction: a quality evaluation" investigations the nature of top 200-appraised weight reduction applications accessible for cell phone clients. those applications accessible in market were not exactly standard quality and conduct change procedure joining was additionally restricted. Steven s. Coughlin, Mary whitehead, Joyce q. sheets, Jeff mastromonico, and Selina smith (2016) in the paper "a survey of cell phone applications for advancing actual work" spotlights on investigating the wellness applications to decide if they help in following active work and advancing

wellbeing. the review uncovers that respondents of various ages incline toward cell phone applications for their active work as it well assistance in instructing and propelling them. Lynn Katherine Herrmann and Jinsook Kim (2017) in their paper "The Wellness of Applications: A Hypothesis Based Assessment of Versatile Wellness Application Use North of 5 Months" zeroed in on the adequacy of wellness applications by looking at three wellness applications for a time of 5 months. The applications were analyzed dependent on the hypothesis of arranged conduct (tpb) which was finished by an overview and estimated by t-test, sign test, Fisher's precise tests. They tracked down that the force of use diminished over the long run as the members were not happy in utilizing the application they inferred that the application should zero in additional on handiness and convenience to build the adherence and viability of applications. Maria D. Molina, and S. Shyam Sundar (2020) in the paper "Can Portable Applications Persuade Wellness Following: An Investigation of Mechanical Affordances and Exercise Practices" attempts to inspect whether the wellness applications drives the client to keep up with exercise routine. The review inspected 682 profiles for dissecting and unveiling the utilization of wellness applications. The review incorporates a substance examination for investigating the urgent characteristics which helps in holding the clients in a since a long time ago run.

#### VII. DATA ANALYSIS & INTERPRETATION

**Table 7.1 Gender of the Respondent**

	Number of Respondent	Percentage
Male	28	56.0
Female	22	44.0
Total	50	100.0

Source: Primary Data

Of the total respondents, 56% are male and 44% are female. It shows that male respondents are more inclined towards using the fitness apps as compared to female respondents

**Table 7.2 Age of the Respondent**

	Number of Respondent	Percentage
20-35	35	70.0
35-45	9	18.0
Above 45	6	12.0
Total	50	100.0

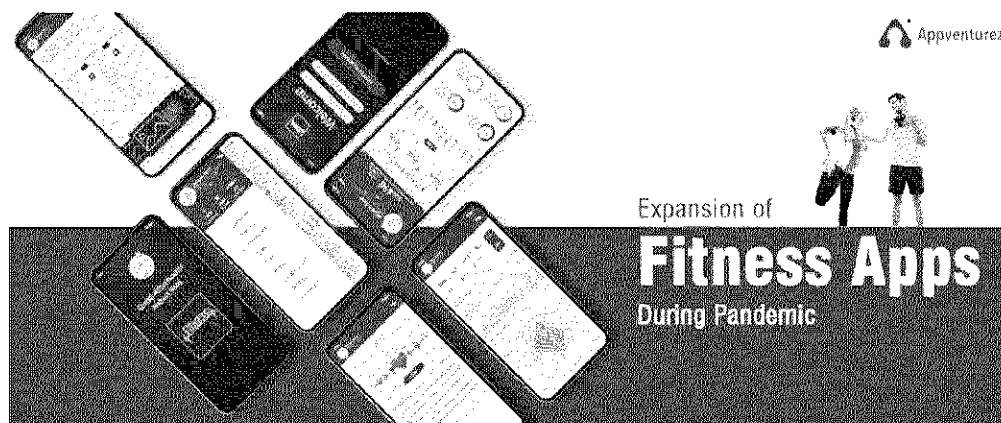
#### VIII. Finding

From the review, we observed that larger part of the respondents who use wellness applications are youthful grown-up guys in the age gathering of 20-35. It shows that men are more keen on excess fit when contrasted with ladies. Around 30% respondents lean toward applications with center around exercises than diet and sustenance as a significant viewpoint to

wellness. Despite the fact that portion of the respondents like to stay fit consistently, just 32% adhere to every one of the directions of the application as often as possible and consistently. It is observed that it has been just 3 months since 34% of the respondents have begun utilizing these applications. This shows the fame of wellness applications have expanded as of late. Around 40% of the respondents utilize the application consistently and 28 percent use it on week by week premise to do their wellness exercises. Also 60% respondents find the application that they are utilizing powerful. This demonstrates the impact of the application on clients. The greater part of the respondents track down accommodation of access of applications as the primary driver for picking the application at first and furthermore for accomplishing their wellness objective. The investigation shows that greater part of the respondents consent to applications being less expensive than wellness focuses and helps in saving their time. The review shows that around 46% of respondents concur that applications give abundant exercise direction for minimal price than wellness focuses. Very nearly 70% respondents didn't adversely their wellbeing subsequent to utilizing the application and might want to allude the application to other people.

### **IX. Conclusion**

The review addresses on the clients viewpoint towards the cell phone wellness applications and its impact in advancing wellbeing. In the wake of leading the review, it is seen that a large portion of the respondents consider that utilizing wellness applications is advantageous. Wellness has turned into a frenzy among adolescents and grown-ups. This is obvious from the review as most of the application clients are youthful grown-ups. Most members concur that the wellness applications are profoundly powerful in giving offices to accomplish their wellness objectives with less expense, time and simple openness. The applications appear to emphatically affect the clients' wellbeing when it is utilized routinely. This positive outcome additionally upgraded the prominence of applications as the fulfilled clients recommend the applications to other people.



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