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4th International Conference on

"Sustainable Practices in Business Management and Technology in Turbulent Times"

IC-BMT 2021

Organised & Hosted By

JAGRAN INSTITUTE OF MANAGEMENT

620, W-Block Juhi, Saket Nagar, Kanpur, Uttar Pradesh, INDIA
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4th INTERNATIONAL CONFERENCE ON "SUSTAINABLE PRACTICES IN BUSINESS MANAGEMENT & TECHNOLOGY IN TURBULENT TIMES" (IC-BMT 2021)

EDITORS

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E D I T O R I A L

*It is a matter of great pride and pleasure for us to host the **4th International Conference on "Sustainable Practices in Business Management and Technology in Turbulent Times" (IC-BMT 2021)"** organized by Jagran Institute of Management, Kanpur on **Thursday 18th of November 2021**.*

*The theme of the Conference is **Sustainable Practices in Business Management and Technology in Turbulent Times.** Sustainability has become a crucial component to any organisation's successful strategy. Business practices and technology that does not consider sustainability element is less impactful in several measures. In a business environment that is characterised by global integration and rapid technological advancement, most of the managerial and economic resources are absorbed in acquiring competencies to make pace with the changing environment. As the world moves away from the recent turbulent time and get adjusted to the new normal, the challenges and opportunities are being explored and discussed by experts worldwide. Individuals and organizations are struggling to tackle critical challenges induced by turbulent time. The key to success in the next decade will be different from today. Academicians, researchers, industrialists, entrepreneurs need to reinvent their policies and restructure companies for the future while ensuring adjustments to the turbulent times and strong performance in the present.*

The organizers of the Conference and Conveners have tried to give this Conference stature where-in many research papers have been received from different parts of the country and world. Submissions in the form of empirical, conceptual, practitioner's papers and case studies have been invited, which address various issues related to Sustainable Practices in Business Management and Technology. All submissions are subject to a blind review process. Due to short span of time and pandemic outbreak COVID-19 we received 52 papers and after a critical double blind peer review process, 31 verified papers have been published in Journal and some others are invited for presentations.

In the Inaugural Session of the Conference International and National Guest Speakers shared their experiences Prof. Manu K. Vora Chairman & President, Business Excellence, Inc., USA, Pastor Arguelles Jr. Dean, CCS, University of Perpetual Help System DALTA, Philippines, Prof. Jochen Wirtz Vice Dean MBA Programmes, NUS Business School, Singapore, Mr. Amit Srivastava Enterprise Agile Coach, DGM, HCL Technologies, Sweden, Amb. Adeshola Helen Onadipe Founder- Business Innovation Academy, Africa Change Movement, UAE addressed the gathering. Technical sessions were chaired by Dr. Lakshmi Rawat School of Management, Malla Reddy University, Hyderabad, Telangana and Dr. Neetu Goel Vivekananda Institute of Professional Studies, New Delhi

We feel privileged in thanking all those who have helped us in making this Conference successful. From every little gesture of help to grand support, each action is acknowledged. Special thanks to Our Late Respected Chairman Sir under his guidance we initiated this Conference, Vice-Chairperson, CEO of Jagran Education Foundation and peer members for their enormous support, motivation and guidance.

We wish you all to learn, gather and make memories worth remembering. We wish each one of you a very successful year ahead and look forward to meet again to make unforgettable moments.

Prof. (Dr.) Divya Chowdhry
Director & Conference Convener

Prof. (Dr.) Anil Kumar Singh
Professor & Dean Conference Co-Convener

Mr. Adarsh Srivastav
Assistant Professor & Conference Co-Convener

IC-BMT 2021

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CONTENTS

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THE STUDY OF INTERNATIONAL BUSINESS ENVIRONMENT AND ITS POLICIES DURING SUCH CRISES

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ABSTRACT

The Business is the characteristics of human being of this new. The human being is now globalized due to the modern environment. Hence the Business is also globalized. There are so many communities, cultures or Nations in the world. Between these various countries there may be variety of thinking, behaviors, Religions, financial abilities, Educational Levels, relations between surrounding nations. It is not easy to do the Business easily. Some common and universal easily available medium is essential, like language, currency, internet, banking etc. Then easy Transportation, finance transactions, raw material, cheap Labor, currency interchanging ratios for transforming money. All these are the complications for international business environment but strong need is the most important factor in developing this business. Hence the study of global business is the basic need of each nation. Second points of this study is the different positions of each country in the sense of financial condition, educational level, political ambition, religion, geographical situation, creating self-influences in the world etc. Considering all above-mentioned points there are many crises in the world business. The fuel manufacturing nations group, atomic power Possessing group, industrially forwarded group, poor nations, religion-oriented nations, educationally back-worded etc. Due to This type of difference one nation always tries to dominate other nation. Instead of cooperation between Them There is competition and hence crisis is born between them. Due to this, their various groups are formed on the global screen and there is also militant ambition somewhere in some times. This is study to search the points in the international Business environment in the view of exports & imports.

Keywords: Globalized, Finance Transactions, Finance Transactions.

1. INTRODUCTION

The business is the characteristic of the human being of this new world or new era. The human being is now globalised due to the modern environment. Hence the business is also globalised. There are so many communities, cultures or nations in the world. Between these various communities there may be variety of thinking, behaviors, religions, financial abilities, educational levels, relations between surrounding nations. In this situation it is not easy to do the business smoothly. Some common and easily available, universal medium is essential, like common language, common currency, internet banking etc.in the same way easy transportation, financial transactions, raw material, cheap labour, currency exchanging ratio for transforming the transactions etc.

All these are the complications in international business envioernment but strong need is the important factor in developing the business.

2. PURPOSE OF STUDY

The study of the global business is the basic need of each nation. The second point of this study is the different positions of each country in the sense of financial condition, educational level, political ambition, religion, geographical situation, creating self influence zones in the world etc.

Considering all above-mentioned points there are many crises in international business. The fuel manufacturing nations group, industrially forwarded group, poor nations, religion-oriented nations, educationally back-ward etc. Due to these types of difference, one nation always tries to dominate another nation. Instead of co-operation between them there is competition, and hence crises are born between them. Due to these various groups, formed on the global screen and there is also militant ambition appears in such groups. This is also a main purpose of such study. The positive and negative points of international business and crisis between the same should be studied.

3. OBJECTIVES

There are many objectives in this field Such as:

- To see the export-import policy of concerning nations, along with their behaviors, understanding about business, their needs.
- How to balance the export & import? Considering the requirements, finance, etc.
- In technical & research sector, what should be our policy? How can avoid the religious influence?
- How can we increase the export of final products and to decrease the export of raw material?
- We have to import the brain drain & not to export the brain drain. This will increase the national intelligence levels and our technical ability.
- How can we increase the export of our agricultural products, to help our farmers?
- To search the sources of foreign currency and foreign investment.
- To search the kinds of infrastructure for global

marketing. Such as transportation, media language, essential education etc.
- To select most favorable countries to avoid the business with our hidden enemies.

Like this there are so many branches for study which should study deeply and some positive conclusions should be driven for new opportunities.

4. PREVIOUS UNDERSTANDING

- Our traditional business with our neighbor countries was to export cotton or other agricultural productions, raw minerals etc and to import machineries, defence equipments, fuels, medicines etc.
- We were supplying cheap labour to other countries & hiring skilled man power.
- Now we can export highly advanced machineries, airoplanes, ammunitions, vehicles, highly- technical manpower etc.
- We are reducing our import and trying to increasing our export. Due to our democracy, we have no hidden trading policy.

5. METHODOLOGY FOR CRISIS

There is no any fixed methodology or strategy to overcome the crisis in international business. This is very slow process to search the way to come out from the difficulties or crisis.

- Everywhere crisis is born along with events, we have to think over the problems, study the situation and find out the proper way to overcome. We have to know our enemies and their strategies about us, their financial & other abilities. We have to form our most favorite countries group for safe trading.
- Fuel is our most weak point in international business. We have to search the alternatives like cheap electricity, hydro power, solar or wind power, battery operated instruments and vehicles, and water transportation. To save agricultural food we have to use more and more sea food or river food like fish etc.
- Our defence system should be strong avoid the influence and interference of our enemies.
- The basic of the international business is economy. There are always different production cost of the same thing in different countries due to the situation of the concerning countries. In one country labour may be cheap but raw material may be costly or transportation or power may be costly.
- Hence this difference occurs. To avoid this one country imports the required material at cheap rate from another country and exports the abendently available material to another country. Hence competition takes place.
- Types of Government or rules of various countries. Some Governments in the world are like one man show, one party ruling, communism, dictatorship, relision based, democracy, hierarchy, king ruling, etc. The international business mainly depends upon such government policies. The investment in business requires the surety of investment and output on it. And this surety depends upon the type of government of concerning country. Trading with Russia & china, north koria etc. is totally different that with USA & European countries etc. Hence while studying international business and concerning crisis we must think upon the type of govt. and its policies In democracy the long term policies are adopted while other governments may change their policies suddenly or any time.

6. TRANSPORTATION AVAILABILITY

This is important factor in any type of business. Prompt and cheap as well as secured transportation is required in international business. Insurance facilities, exchanging or clearing agencies, financial transactioning facility etc. are also the important factors in this business.

7. INTERNATIONAL ORGANIZATIONS AND INDIA

- U N O founded in 1945, now having members upon 193 countries.
- W T O founded in 2006
- ASEAN having members up to ten countries.
- Foreign Trade of India-India is exporting approximately 7500 commodities & importing around 6000 commodities from 140 countries.
- India export = 318.2 Billion dollars in 2014
- import = 462.9 Billion dollars in 2014
- This gives rough idea of national trading.
- Our trade partners in the world = Bangladesh, Bhutan, Germany, Hongkong, Iran, Israel, Japan, Nepal, Russia, Saudi Arabia, China, Singapore, Switzerland, The united Arab-emirates and USA.
- Our main exports - Farmaceutical, food products etc. Trading policy is mixed economy.

8. FOREX MARKET - FOREIGN EXCHANGE MARKET

It is the global market place for exchanging national currencies. This is the largest and most liquid asset markets. In the world. It is started for all countries where banks, funds, and individuals can buy or sell currencies for hedging and speculative purpose. It operates 24 Hours, 5.5 days a week and is responsible for trillions of dollars in daily trading activity. The study of this market is essential for searching solutions on exchange of money to solve the crisis.

How to solve the crisis in international business?

To find out the solution on international business crisis, to apply the solutions, compromization, arbitation, common-interest agreement etc. are the signs of intelligence or it is an art also. There are many types of crises hence the solutions.

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9. SOME TYPES OF SOLUTIONS

Political or another nations policy

It is unavoidable problem but can be moderate by making that country as our most favorable country. This is only possible on national level. or government level. We

Should export to them their most essential material, services, informations, techniques etc. against our requirements. To support that country in their international dealing, policies, etc. while keeping our interest safe or secured.

Financial

Finance is the most powerful factor in business. We can create our influence in another country by increasing investment in that country. We can invest in that country in providing infrastructures like roads, railways, dams, electricity, generation, education, agriculture, industries, etc. We can use their at cheap labour, raw material, for our final products. We can provide them finance at lowest rate of interest. All these facilities can be cashed in international business with that country.

Technical Know How

Highly educated or forwarded countries sale their knowledge to comparatively backward countries, and create their own influence, to cash in international business. While transfering techniques the provider country. Keeps their interest by partnership or percentage or other facilities in business etc. Technical information is the most important word in this era. We have to develop new techniques we have to cash these techniques.

Transportations

The cheap transportation is the most important feature of international business. This also reduces the many crises about economy.

Enemy country influence

If A country is enemy of B and B is the business partner of "D". But due to geographical situation "D" is under the influence of "A". Then "A" becomes obstruction between B&D. The hidden policy takes place. A plain business between B&D becomes complicated. This is the crisis. Solution= B has to change "D" or B has to dominate A trough its own activities or through else country like "E". This is universal truth of international business or politics also.

Fuel Manufacturing countries group

The fuel has the universal demand. Every country runs along with fuel.

The petroleum manufacturing countries are grouped with each other and this group creates financial pressure on others. To depress them we have to search alternatives like solar, air, hydro, atomic etc. powers to reduce the use of petroleum. It will also conserve our environment.

Atomic power holders these are the leader countries in militant power. They also dominate other countries. Hence, we shall be alert as well as we should search alternatives like virus Bombs.

Internet Jammers - taping of secrets through internet information to create fake information in the enemy-countries to observe the enemy-countries, to observe the enmies plan, actions through satellites. This should be adopted for becoming stable in international business. These are also powers and alternatives against fuel or atomic power groups.

Hacking of internet or cyber attacks etc

In this system the highest or top secrets of enemy-countries or of top powers should have taped or snooped. The dangerous massages should be intercepted directly. To do the misunderstanding in enemy countries. Some insersations, deletions, changes must be done with most security.

Security of our information

We should always secure our top informations i.e., confidentiality, integrity, availability for us, Accountability, Authentication, only keeping this record ready is not only the essential activity but its confidentiality is also most essential in the international business.

Our software

If our own designed software is not so speedy, not easy to operate, time killing etc. but we must use only our own designed softwares for privacy. Hired or purchased softwares may be dangerous for our business. Hence to reduce crisis we should use our own designed softwares.

Mr. Stephen R. Covey, famous writer has explained in his famous book "The 7 Habits" the human nature. Then he had also found out the 8^{th} habit of human. As per his opinion normally human is not the enemy of human but the situation, the need, the culture, the faith, the relations, and after all the blood relations becomes the human behaviour like enemy with each other. We all are being human we all are behaving same to each other. Considering this fact; the study of human behaviour or human nature is also essential to solve crisis in international business, us under

- **Ethics -** This is the link between human to human, Nation to Nation, cultures to culture. The religion is nothing but the rules of ethics. The fear about God, mis behaviour, punishment, rules regulations, Laws applied by any government etc. All are essential for good and plain relations between each human being. Gandhiesm is the ethical base of human behaviour for universal peace and every one must follow the same.
- **Education** - More the education more solutions can be derived in the universal crisis of human being. It is also the fact; more education can create more crises in this business. Hence, we should be always conscious & alert. New or fresh education is must be learned by each and every person.
- **Culture -** This belongs to religion generally. The faith on God. Fear of God and his punishment for bad

behaviour. Hence human being keeps himself away from wildness.

- **Human behaviour -** To create the crisis is the nature of human being due to his education, ego, status etc. These are the main features of his behavior. To solve such type of crisis the same status is required between us or we should present another such status in the same business or we should overtake the opposite party by any other means. (Ref. for 1 to 4 = Mr.Stephens 7 habits)

These are the common or usual examples of crisis in the international business. Now we are reached near the conclusions of our study.

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SWOT ANALYSIS ON EXPORT ORIENTED UNITS PERFORMANCE: A STUDY WITH REFERENCE TO GARMENT UNITS IN TIRUPUR

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ABSTRACT

This research study entails on the performance of export-oriented units in Tirupur has to evaluate its futuristic operations in forthcoming years of business tough competitive environment. Hence it aims to find out the export orient units through application of SWOT analysis over to evaluate performance: a study with reference to selected units in Tirupur. The findings and observations are the result and outcome of the analysis made during the research study.

Keywords: Export Oriented Units, Garments, Industry and Company.

1. INTRODUCTION

In the present-day context of business environment every organization is in a position to face competitive advantage at global level. In this scenario it is relevant for a researcher to study strength, weakness, opportunities, and threats for garment industry in relevance to emergence of status given by Government of India as hundred percent export-oriented units in Tirupur. Hence the researcher has gone through a research analysis.

2. RELATED REVIEW AND GAP

The responsibility of social scientist is to derive new outcome from the nature, concept and developed outcomes. Hence, every research work is in position to undergo to find out the research gap and hence following reviews are collected. Thus, this study realizes to new path for these parameters. And hence necessary secondary data are collected over to records to the subject issue in related variables.

3. RESEARCH OBJECTIVE

To apply SWOT analysis for examining the performance of Garment units at Tirupur.

4. RESEARCH METHODS AND ANALYSIS

Secondary data are those which are collected from various reports published by selected units, Tirupur. Apart from the company records, sources from Journals, Magazines, Books, Periodicals were taken for the purpose of the study. Tables and charts are used to interpret the data collected. Individual units are highly specialized at the manufacturing of fabric, dyeing processing, knitting and export marketing. Therefore, this paper furnishes the analyses and interpretation of the collected data for **"SWOT Analysis on Export Oriented Units Performance: A Study With Reference To Garment Units in Tirupur".** Necessary information and data are collected for bringing out suitable analysis and conclusion.

5. SWOT ANALYSIS

SWOT Analysis means analysis of strength and weakness of an industry in relation to its competitors and identifying the various environment opportunities and threats which a firm is likely to face in a given situation. The company has been analyses using SWOT and the interpretation are as follows.

STRENGTH

- Budgeted Cost of Production
- Skilled Human Resource
- High Demand at Western and European Countries.
- Government Consideration and International Technology Inputs.
- Full range of sophisticated state of the art technology.
- International Brand Equity.
- Strategy for Best Outcomes.

WEAKNESS

- Lack of Infrastructure.
- Competitive gaining is Tough.
- Difficulty in Participation in Expo.

OPPORTUNITIES

- Provision of outsourcing capabilities.
- E-commerce capabilities.
- Explore in the unexplored market.
- Importance given to world class quality.
- Digitalized System.
- Participate in international garment magazine.
- Good Logistics and Supply Chain Management

THREATS

- Minimum Cost affordable by some other Asian Countries.
- Technology Updating is Poor.
- Ups and Downs in Direct Cost.

6. IMPLICATIONS OF THE STUDY AND CONCLUSION

- Clear-cut policies on raw materials, in the interest of indigenous industries, should be planned, chalked out and discussed well in advance. Prohibiting/banning the export of raw material is to be invariably considered in detail and enforced.
- The government should endeavor to end the burning problems of the processing units on a war footing.
- A friendly tax policy is most essential. Besides, a lowering of effective tax rates, the government officials may be asked to desist from raising unwanted litigations.

Thus, to conclude, Exports of countries face a checked assess with high Tariff and Non- staff walls in the industrialized countries and their major markets. The doctrines of free trade and competitive cost advantage having been distorted, the developing countries have been the hardest hit by the resultant inequalities and maladjustment in the global trade. Developing countries remain far behind in the export marketing strategies and the means available to their counterparts.

7. SCOPE FOR FURTHER RESEARCH

Comparative study on Export oriented units' performance and International Export oriented through online networking and also to study the problems of Export oriented units' performance through utilized latest technology.

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DIGITAL MARKETING MADE MORE EFFECTIVE BY EMPLOYING CRM PRACTICES

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ABSTRACT

Digital marketing means using various digital mediums to market one's product. These digital mediums include SEO, social networking sites or social media, websites, landing pages, email, content writing and various mobile apps. Although digital marketing is becoming a profitable way of marketing products in recent years due to increased penetration of internet, but during this turbulent period with the furthermore increased usage of internet, the attractiveness and utility of digital marketing has also augmented. With this the competition among the marketers to capture attention of customers and to convert leads into actual sales has also intensified. Today consumer wants immediate and reliable results. No beating around the bush. This creates a need that digital marketing should be personalized and target oriented. Offering to the consumers what they actually want. Another important thing is that various departments of the company should have same and maximum information of their customers, in order to function in coordination enhancing customer satisfaction. Here, CRM comes into role. It helps the companies to keep proper, personalized and updated data of its customers, providing it to the various users of this information in a effective way. CRM practices help in making digital marketing more profitable and effective. Various CRM practices such as use of technology for automation of various functions, proper lead management, location-based services etc are employed by the companies for this purpose, which we will discuss in detail in this article.

Keywords: D-Digital, M- Marketing, C-Customer, R-Relationship, M-Management, P-Personalized, E- Effective

1. INTRODUCTION

Digital marketing means using various digital mediums to market ones product. These digital mediums include SEO, social networking sites or commonly called social media, websites, landing pages, email and various mobile apps. A large number of people rely on online media channels to research about the products they want to buy. They do research regarding options available to satisfy a particular need, comparison between the prices among them, reviews of the previous buyers, allied services available, payment options etc. for this purpose they make use of online digital mediums. The data released by Neilson and the Broadcast Audience Research Council (BARC) shows that internet usage grew sharply in cities over the initial month of the first lockdown period, touching 54 per cent. In other words, every second individual in cities is using internet, says the study. In rural areas, internet penetration stands at 32 per cent, while the national average is 40 percent. These people are spending their time in searching through SEOs, on social media, shopping, playing games etc. As a result these digital media channels can be very effectively and efficiently used for marketing of companies' products. In the recent years with the increased penetration of internet in the daily life of individuals, digital marketing is becoming a profitable way of marketing products but during this turbulent period with the furthermore increased usage of internet, the attractiveness and utility of digital marketing has also augmented.

2. TYPES OF DIGITAL MARKETING

Search Engine Optimization (SEO): Search engine optimization is the manner of designing ones website in such a way that it increases the views of the website that is displaying the website higher in the search results. It means making viewing of website easier on the search engine. For this purpose, the website should be designed well keeping in mind the key words related to the product that are often searched, updating the website often with quality content so that it seems as an important and useful website to the search engine pertaining to the area concerned.

Content Marketing: Content marketing involves creating quality content about the product and then distributing to the present and potential customers using blog, emails, videos, social media etc. This content should be relevant and useful to be effective. It creates a good image of the company and make customer believe that the company values them.

Social Media Marketing: SMM is the use of social media by the marketers to market their products. Marketers make use of the data given by the people about themselves on these sites to capture the attention of the people; they try to grab their attention by appealing to their traditions, values and culture. A quality content advertised on social media generates sales lead.

Email Marketing: Marketers often use email as a medium to communicate with their customers regarding the latest products and exiting offers. These emails are generally directly addressed to the consumers, this leads to relationship building, lead generation and brand awareness.

Affiliate Marketing: It is a marketing technique in which a third person, a blogger or a website is paid for generating sales lead for the marketer's product. The blogger or the website provides a link to the website or landing page of the product where it can be bought. Payment is made to the third party on the basis of number of leads materialized into actual sales.

Pay Per Click: In this model of marketing the marketer pay to the publisher, generally the search engines, social media sites etc, who is displaying the product's ads every time the concerned ad link is clicked.

Mobile App Marketing: Mobile app marketing is the way to engaging the customer during the entire duration of their association with the marketers app. It involves encouraging them to download app, visit it regularly, make purchases, and recommend the app to others. For this the marketer as to strategize very carefully, design the app attractively, relevant and user friendly. Marketers also come up with exciting offers from time to time only for app users.

3. ADVANTAGES OF DIGITAL MARKETING

Cost effective: Cost of marketing the products using online media proves to be cheaper as compared to traditional methods of marketing. In most of the digital marketing types if the content is of good quality the product is advertised at a much lesser price, to a greater number of people around the globe easily.

Target oriented: Digital marketing helps in accessing target market directly. Digital marketing campaign is designed by analyzing the data available regarding the current and potential customers, this makes it target oriented giving good results.

Personalized experience to customers: With help of the available data of the customers regarding their search, likes and dislikes, previous purchases etc digital marketing advertise the products the concerned customer actually wants.

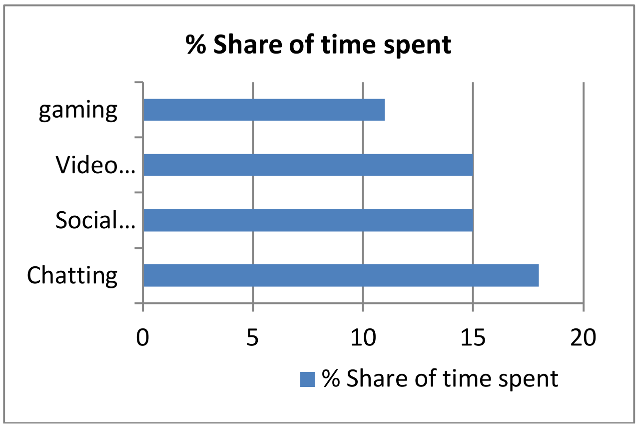
Measurable: Effectiveness of digital marketing can be easily measured using various analytical tools. One can easily determine which digital marketing type has generated greater sales lead and actual sales.

Time efficient: Digital marketing saves the time of the consumers as well as of the marketer.

Raises standard of living of the customers: Digital marketing makes available the knowledge and awareness about the best and latest products at the finger tips of the people, assisting them in making good purchases and raising their standard of living.

From the above-mentioned types of digital marketing the marketer is required to make a mix to bring about an effective, profitable and efficient digital marketing campaign. For this purpose, they should know how people are spending their online time. During this turbulent period according to the data released by Nielsen and the Broadcast Audience Research Council (BARC) The Smartphone is the preferred device for using internet in India, wherein time spent by the people shooting up to nearly four hours per day from three hours and 22 minutes daily before the pandemic began. Chatting, social networking, gaming and video streaming are some of the preferred activities. At least three-quarters (76%) of Internet users aged between 16 and 64 in surveyed countries say they had been spending more time using their smartphones compared to their pre-lockdown behaviour, with almost four in five women reporting an uptick in mobile use.

WHAT PEOPLE LIKE DOING ON SMARTPHONES



Source: Neilson/BARC

The above displayed graph shows what people like to do on their smartphones while being online, such information is helpful in designing the digital marketing campaign. According to the research during the lockdown, traffic and search volume had surged, so those taking advantage of the low cost per-click (CPC) rates benefitted from a much higher return on investment (RoI) than prior to the corona virus pandemic.

People have been spending more time online now than ever. In fact, detailed research from GlobalWebIndex reveals that people all over the world had been spending considerably more time on their digital devices as a result of corona virus lockdowns.

Keeping in view, an upsurge in the use of internet, people spending more time online and advantages of digital marketing more and more companies are using this medium to market their products. This has increased the competition among them for the traffic. Apart from high competition there are other problems are faced by digital marketers. 1) Technological issues: In digital marketing various technology related issues are to be addressed by the marketer like analysis of the available data, constant updating of content, managing website and landing pages, security of data, proper coordination among various departments etc. 2) Piracy: Product websites can be hacked by rivals or haters and corrupting the website with either wrong products or offers or other vital information.

So the marketer has to remain very vigilant. 3) Customers facing silos: Customers complain that they have to give the same information again and again to various departments of the company while interacting with it. This creates frustration among them reducing their satisfaction level.

In order to keep up the advantages of digital marketing and overcoming the disadvantages, effective **CRM Practices** can be employed by the companies. CRM means customer relationship management. It is a software system that uses practices and technology to manage and analyse the customers' and prospects' data available with the company to improve and strengthen its relationship with them. This results in customer retention, creating brand equity and increasing sales and revenue. CRM can help in creating personalised messages for each customer making them feel special and valued, further helping the cause of good customer relationship. CRM creates a database containing customer information accessible to every department or area of operation in the company.

4. WHAT CRM DOES

CRM starts with recording and analysing the customer data collected through various means such as telephone calls, social network, company website, meetings, email, live chat etc. This data consists of information related to customers' preferences, past purchases, personal information such as phone no., email ID, birth and anniversary dates, their concerns etc. It compiles all the data in one place and makes the same data easily accessible to the company personnel dealing with the customers. This helps in solving the silos problem often faced by the customers. It also sorts the data so that only useful and updated is available preventing information overload, making the marketing efforts effective, efficient and sharp. CRM helps in giving the customer a holistic experience engaging with them right from lead generation to after sale experience.

5. POINTS TO BE KEPT IN MIND WHILE EMPLOYING CRM PRACTICES

Customer oriented: Marketing establishes customer as the king. As a result the CRM system should be implemented keeping in mind the customer. It should be carefully analyzed how performance of departments other than sales and marketing, also have a bearing on the experience of the customer, who is consuming company's product and integrate with them providing customer impacting information relating to one area of operation to other helping other to strategize on time.

Data collection at one place should be the first step in CRM. All the customer facing departments should be made to share their respective data of their dealings with customer with CRM. These decreases silos faced by customers.

A whole new CRM system should be created from the base instead of implementing on over the existing system. When such a thing is done the shortcomings of the past system are carried forward to the new system also.

The employees should be taken in confidence before implementing CRM system. They should be encouraged to rely and use CRM database in their day to day working. The advantages of CRM should be made known to them, how it decreases their workload, increases their efficiency and makes their interaction with the consumers more fruitful.

On the basis of the available data CRM should be able to forecast the future trends in the market correctly. Only then a company can gain an edge over its competitors in this fast-changing technology world.

6. CRM SOFTWARES

Cloud based CRM: In a cloud-based CRM all the data is stored on the CRM provider's own server accessible by the company employees from anywhere using internet. The company does not require its own local network and all updates and maintenance is done by the CRM provider.

Mobile based CRM: This CRM provides the facility of accessing data on the go using a mobile phone. It provides real time information and support to the customer facing departments of the company.

Social Media CRM: Social media CRM integrates the CRM software with the social media enabling the marketer to use the social media for understanding and serving customers. It allows the marketer to use social media as a effective marketing medium.

Artificial Intelligence and Analytics: Artificial Intelligence is incorporated in CRM to make the data more useful using forecast and analysis. AI can automate the functions such sales, marketing, purchase etc. After the analytical studies AI can predict future trends, sales leads, purchase recommendations.

The companies who have employed this software have seen a huge improvement in both the adoption of CRM by the employees and meeting sales quotas- According to Buyer Zone (now acquired by Business.com, 91% of companies with more than 11 employees now use CRM software.

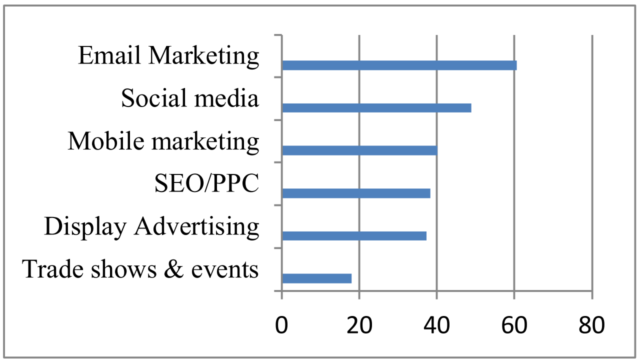
Statistics from Forester have shown that **50% of teams improved their productivity by using a mobile CRM.**

A Nucleus Research report finds that for companies using a mobile CRM, **65% are achieving their** sales quotas. While only 22% of reps using non-mobile CRM have reached the same targets.

We live in a world where 60% of consumers begin their product research with one or more search engines before heading to a particular website - and they will use mobile devices, laptops and desktops to search for products they are interested in making digital marketing supported by CRM software an indispensable part of their marketing campaign.

In order to engage potential customers across multiple devices in multiple channels, one needs data and processes. And with CRM software, marketers are able to create a holistic database of each person they connect with. Marketers using CRM software are planning to use digital marketing on a large scale to market products as compared to traditional means. As depicted in the chart below.

WHICH MARKETING PROGRAMS MARKETERS PLAN TO INCREASE SPENDING IN THE UPCOMING YEARS



Source: Superoffice-CRM software statistics (blog: 18 statistics you need to know for 2021and beyond)

Such a decision is being taken by the marketers because their digital marketing is supported by CRM.

Business that uses CRM software see sales increase by 29%, sales productivity increase by 34% and sales forecast accuracy increased by 42%, (Source: Salesforce)

Using CRM software can increase sales conversion rates by up to 300%. (Source: Cloudswave)

Due to improved data accessibility, sales reps at companies using CRM are able to shorten their sales cycle by 8% to 14%. (Source: Nucleus Research)

7. CONCLUSION

It is clear from the discussion above that people are and will in future keep spending a large chunk of their time online. They are going to do research about the product, follow its promotional activities and make decision either to buy or not on the basis of their search and interaction online. So digital marketing is the profitable and preferable way of marketing products and capturing customers' attention to generate sales leads and converting them into sales. CRM practices make digital marketing more target oriented and effective. CRM gives an impetus to the digital marketing by proving real time and reliable data accessible from anywhere and anytime. AI based CRM provides the reliable forecast of sales, future trends and customer preferences. Digital marketing with CRM results in better customer retention and giving customers a rich personalised experience. This creates brand loyalty. Normally employees engaged in digital marketing spend a large part of their working hours being online collecting, processing and analysing customer data. CRM frees the employees from this, saving their time, reducing workload and providing them real time anywhere and anytime which is now used by them to make sales. A company doing digital marketing fully armed with CRM softwares doubtlessly gains hugely from its marketing campaigns.

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CSR, SUSTAINABLE DEVELOPMENT GOALS & SUSTAINABILITY: A STUDY OF CSR IN EDUCATION AND HEALTH

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ABSTRACT

The article aims is to analyse the corporate social responsibility of the selected companies towards the education and healthcare sector, examine the sustainability and state the linkage between CSR and SDG The analysis is based on secondary sources and data is collected from the review of existing literature, websites and annual reports listed as Top 20 companies in CSR investment in the National CSR portal. Examining the pattern of the selected companies it was found some of the companies are investing towards education and healthcare and more companies are required to contribute to CSR activities and linkage found between corporate social responsibility and sustainable development goals.

Keywords: Corporate Social Responsibility, Sustainability Development Goals, Sustainability.

1. INTRODUCTION

In this dynamic business environment, an organisation could not survive merely on philanthropic activities just to save its good image but also needs to act rationally for the growth and development of the society and the environment. CSR is mainly defined as the voluntary contribution of the corporates for the wellbeing of the society and philanthropic activities. Environmental issues have become a major issue and cannot be overlooked (Chen, 2011). Despite focusing on all the environmental bodies and fundamentals laws for promoting the awareness and concerns of global warming and climate change, decision-makers have not shown up for environmental discourse (Tomomi, 2010) as it is for the visible sign of economic cost with sustainability (Zhu et al., 2019). Companies are only focusing on CSR for the namesake and mainly focuses on profits maximisation and do not care for society and environmental well-being (Hussain et al., 2016). But in recent, companies have started realising the importance of becoming responsible for addressing social issues as it helps organisations to attain sustainable development (Baumgartner & Winter, 2014). And also, the companies have changed their mindsets towards business and focusing on all the possible ways of commitment to develop the society, protect the environment through alignment of various policies and strategies with sustainability (Orlitzky et al., 2011). According to the Brundtland Commission report Sustainability defines as the development that helps in meeting the need of the present generation without compromising the ability of the future generations (Brundtland Commission, 1987). Further, sustainable development helps in improving the value creation of the company as well as for the society (McWilliams & Siegel, 2010). And sustainability should be an integral part of corporate strategies and policies (Epstein et al., 2018). Sustainable development goals of an organisation is usually considered as a responsibility towards resolving the society as well as environmental issues which evolved from business activities (Schaltegger et al., 2012). Besides, for achieving sustainable development goals, corporate social responsibility could be aligned with green innovation and performance (Chen et al., 2018).

According to Kotler & Lee (2005), the awareness of sustainable development goals among the employees helps an organisation to achieve its strategic sustainability goals through the involvement of employees in CSR initiatives. Some researcher argues that the main intention of CSR strategy is to achieve the good image and better reputation of the company (Garriga &Mele, 2012). And rest believe in response to global trends on the 17 sustainable development goals as a CSR strategy by the corporates which requires a greater amount of commitment towards the environment and social development (Lopez&Villagra, 2016). The rest of the paper follows these sections: the literature review, which contains the discussion of corporate social responsibility, sustainability and the area of sustainable development goals. The objective of the study and then the methodology section includes the research method used for the analysis of the data. Further after the analysis discussion and findings of the study through companies reports and connecting CSR with 17 SDG. of CSR and sustainability and discussed their relationship and then the objectives of the study, methodology and conclusion of the study and the conclusion.

2. LITERATURE REVIEW

Corporate social responsibility and sustainability and Sustainable develoment goals.

Across the global area, the meaning of corporate social responsibility has been described as a cordial relationship between society and the business and it has a long history with the presence in the various culture around the world

(Snider et al., 2003) and a continues commitment by the companies to behave ethically and improve the quality of society and environment (Hussain et al., 2016). Corporate social responsibility is usually treated as an approach to integrate social and environmental activities into business practices (Rodriguez et al., 2002) and the main aim of corporate social responsibility is to combine the environmental and social concerns into the organisation business policies as social responsibility including the environmental sustainability (Williamson et al., 2006).

And the social and environmental certifications and CSR activities of the organisation attracts the stakeholders and create a repute in the society (Awan et al., 2017). The companies' green approach to sustainable development is to focus on ensuring a healthy environment, proper utilisation of resources and reduction of dangerous pollutants gases and liquid emissions (Lucas, 2010). Further, it is found that CSR has a positive significance towards environmental sustainability and enhance green initiatives and CSR can be inserted in the environmental strategies and policies of an organisation to have sustainable development (Yusliza et al., 2019). To have a sustainable developmental advantage, an organisation could engage itself in various green initiatives and aligned them with CSR activities for better implementations (Wysocki, 2021). Successful sustainability can be analysed through the companies' green initiatives and innovations. And to be successful the organisation has to implement the green activities in the appropriate way (Weng et al., 2015).

As the companies are enhancing their business activities and profits, which has certainty towards the devastation of the society and the environment which creates many causes such as air pollution, global warming, soil pollution etc. and a firm cannot imagine its future without protecting the environment and the society. This ideology of the practitioners and researchers gave birth to a new concept of linking the sustainable development goals with the corporate social responsibility activities of the company.

Moreover, India is the first among the few countries which implemented mandate CSR activities for the firm. India has formulated its Companies Act, 2013 of which schedule VII describes the mandatory provisions for every company (including both the private and public) to contribute at least 2% of their total profits (the companies which have 500 crores and above net worth or turnover 1000 crore and above or net profit 5 crores or more) towards CSR activities (environmental sustainability, development of the society and nation at large).

However, if the company does not meet the above criteria, then the firm is not liable to compulsory contributions towards corporate social responsibility. Corporate social responsibility could be considered as an effort of the business entity to integrate the environmental and societal issues into companies' policies and strategies (Ebner & Baumgartner, 2006) and is a crucial part of sustainable development and represents the dimensions to understand the situation under which CSR activities could be effective tools of competitive advantage (Du & Bhattacharya, 2010). As per the World Business Council for sustainable development, CSR is an integrative strategy of an organisation (which include social, economic and environmental factors) and a commitment to behave ethically and improving the quality of work-life of the employee and society at large and further has a vision of making the future better for the upcoming generation. Sustainable development could be stated as one of the powerful contexts for the organisation to involve in CSR activities. And together it has the power to change the scenario of the society and nation at large (Petrenko et al., 2016).

Sustainable development goals offer new opportunities that affect the corporate social responsibility strategy in various dimensions like social, economic and environmental issues and helps in building good relations with the employees as well. Besides, now the companies have the opportunity to promote various projects for developing globally and leads to social changes (Westerman et al., 2021).

And it is agreed by all the countries that the fact of properly implementing the sustainable development goals required the attention and cooperation of the business house, society and the ruling government of the country. The recent announcement and implementation of sustainable development goals in 2015 have made realisation among the organisation the importance of sustainability and created a new standard for the recognition of social factors. (Buhmann et al., 2019). Along with the 193 countries around the world, India has also adopted the 17 sustainable development goals and signed the convention with accomplishing the 2030 agenda.

3. OBJECTIVES

- To examine the linkage between 17 sustainable development goals and CSR of selected Indian companies.
- To analyse the trends and nature of CSR spending by selected companies
- To find the CSR spent on education and health sector by selected companies,

4. METHODOLOGY

The study is mainly based on the annual reports and sustainability reports produced by the companies on their respective websites and apart from this, the data is also gathered from the National CSR portal (maintained by the Ministry of corporate affairs). Some reputed journals were studied for building the foundation of the present paper. The study considers companies that are listed in the Top 20 companies in India according to the national CSR portal reports 2019-20. These companies are chosen for the study based on the amount spent on CSR activities and to find the main areas focused by selected companies.

Table No 1

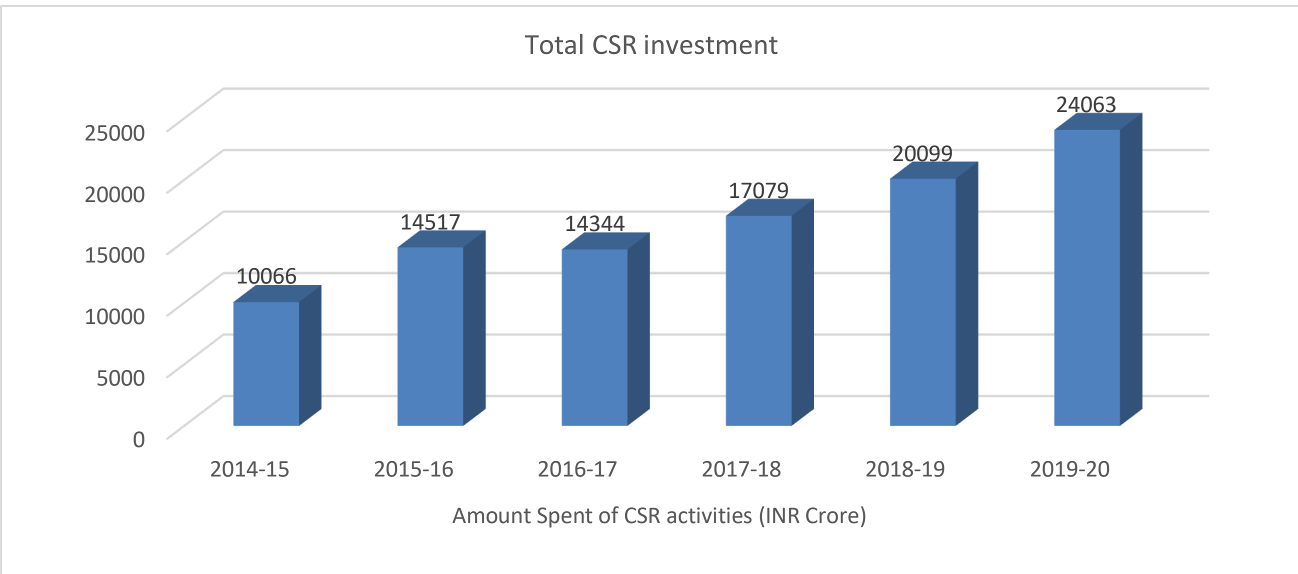
Top 20 companies CSR spent

Company Name	***Amount (INR Cr.)***
RELIANCE INDUSTRIES LIMITED	908.71
TATA CONSULTANCY SERVICES LIMITED	602
OIL AND NATURAL GAS CORPORATION LIMITED	582.07
TATA SONS PRIVATE LIMITED	548.83
HDFC BANK LIMITED	535.31
INDIAN OIL CORPORATION LIMITED	518.49
INFOSYS LIMITED	359.94
BHARAT PETROLEUM CORPORATION LIMITED	346.46
POWER GRID CORPORATION OF INDIA LIMITED	346.21
ITC LIMITED	342.24
NTPC LIMITED	304.92
HINDUSTAN ZINC LIMITED	266.93
REC LIMITED	253.64
J. P. MORGAN SERVICES INDIA PRIVATE L...	204.93
NMDC LIMITED	199.99
TATA STEEL LIMITED	183.8
HINDUSTAN PETROLEUM CORPORATION LIMITED	182.24
WIPRO LIMITED	181.8
HCL TECHNOLOGIES LIMITED	176.29
COAL INDIA LTD	172.31

Source: National CSR portal

5. DISCUSSION AND FINDINGS

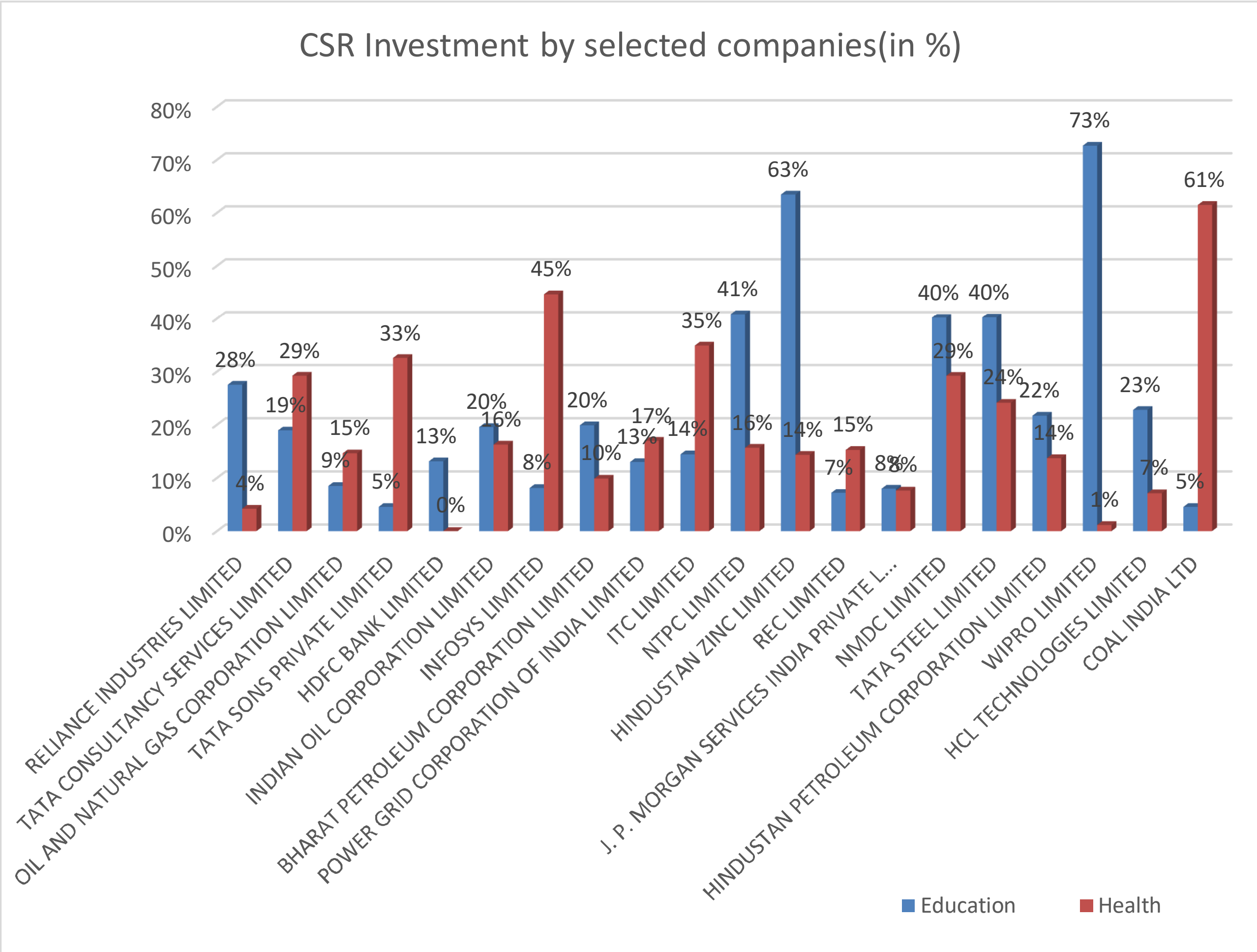
In view of defining the linkage between both (SDG & CSR), many researchers have defined a positive relationship. And as for the companies operating in India, it can easily correlate with SD goals through CSR spending. While examining the CSR and sustainable development goals it was found that both have some similarities in the areas. According to the Companies Act, 2013, schedule VII of section 135 describes in CSR item 1 which includes i) eradication of hunger, poverty, and proper healthcare which is also included in SDG (1)(2)(3) No poverty, zero hunger and good health and wellbeing. Similarly, the other goals of sustainable development (4)(6) Quality education, decent work and economic growth can be linked with CSR item 2- which helps in promoting education, providing vocational training for the employment generation among the youth and CSR area 3 describe the gender equality and empowering the women can be linked with SDG (5)(10) Gender equality, reduced inequalities. And CSR item 4 discuss the sustainability for the environment, ecological balance and maintain the quality of air, water and soil which is also mentioned in the SDG (13) Climate action, (14) Life below water, (15) Life of land. CSR items 10 include rural development which is correlated with the 11 SDG- sustainable cities and communities. Both the term has evolved recently with an impact on the way of doing business for the corporates. As per the record available on the national CSR portal, the spending of the companies towards CSR activities is gradually increasing (Chart 1) and since the incorporation of mandatary CSR for the companies in 2014, an amount of 100,168 crores have been spent by the companies for the social cause and achieving all sustainable development goals.



(Chart no.1)

In India education has evolved noticeably over the years along with the healthcare sector. And education is considered as the backbone of the country because if the youth become literate the poverty diminished itself. CSR helps the companies in recognising their role in improving the social condition of the country. Further, the amendment of the Companies Act, 2013 has unlocked the access for the Indian companies to contribute towards society and have a positive impact. Education, as well as healthcare, are the major benefit sector from the corporate social responsibilities activities. According to the National CSR portal and CSR outlook report 2020, out of the total CSR budget, the education sector has received 29.21% and the health sector has received 19%, which forms the highest investment among all the sectors. From the selected companies annual report 2019-20, it could be stated that education and healthcare have received the highest amount of CSR funds. Every company has a different pattern of CSR investment. And among the select companies, Wipro Limited has invested the highest amount of CSR in the education sector i.e. 73% of the total CSR and Coal India Limited has invested 61% of the total CSR fund as highest in the healthcare sector (Table no 3). From the analysis, it was found that some of the companies are focused on some other CSR areas such as improvement in the infrastructure, environment and social issues.

(Chart no. 2)



Source: Companies sustainability report

6. CONCLUSION

India is facing social development issues and there has been more than 28% of the population are below the poverty line as per the 2011 survey. Thus, corporate social responsibility could be an important tool for the eradication of hunger and poverty for a better tomorrow. As per the study, there is limited literature on corporate social responsibility and sustainability development goals and also limited studies were found to investigate the linkage between CSR sustainability development goals in India. The present paper has broadly discussed and explored to find the alignment of CSR and sustainable development goals in India and found positive linkage between both. Further, it also discusses CSR investment in the education and healthcare sector. And after studying the CSR investment pattern of the selected organisation it can be concluded some of the companies have invested in education and healthcare but as a country like India, it requires more contribution_for developing the sector.

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POWER OF BLENDING THE INTERNET OF THINGS (IoT) AND MACHINE LEARNING

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ABSTRACT

The IoT is an innovator technique which aims at embedding the internet into physical devices thus granting them capabilities pertaining to sensing and identification and allowing the various internet devices across the globe to be connected through proper information and communication technologies for the modernization of human lives. The IoT, in this technological era, being an incredibly huge network of connected devices and tech savvy people, allows data to be easily shared and retrieved surpassing the boundaries of time, region and space. As we know that intellect is a virtue which differs man from other entities. Artificial intelligence (AI) has a power to provide ability to any device to imitate human intelligence processes like learning, understanding, reasoning, self-corrections, decision making and responding timely to any user interaction. Machine Learning is a technology subset of AI which explores through data, understands it and predicts the pattern and independently builds an algorithm so that the machine can make decisions on its own. The main goal is to train the computers system to become independent and able to decision without human intervention thus program automatically. This paper aims to explain the impact of blend features of IoT paradigm and ML for developing effective system for modern era.

Keywords: Internet of Things (IoT), IoT Gateway, IoT architecture Machine Learning.

1. INTRODUCTION

Now a day's Internet is a way to connect different devices and perform various task smoothly. In a last few years with the successive expansion of information technology, the scope of the internet is expanded to not only connect the two or more computers but something more than that. Now internet is not limited between two computers, it is going to connect different things like doors bulb, AC, refrigerator, washing machine, watches, car and so on.

Inter connection of these things with internet introduces the term called The Internet of Things or IoT. It defined as the process of connecting physical devices through the internet for sharing, collecting, and transferring data. IoT adds the fabric of digital intelligence to the physical things connected through the internet, making the world around us more exciting and responsive. IoT can help connect the people living in the huge distances of the world. Plus with devices functioning at incredibly low power, IoT provides solutions without risking the system's accuracy.

In recent years there is seen an exponential growth in development of IoT devices. It increases the performance of persons, firms and industries. It is predicate that around 50 billion IoT devices will be connected to Internet by 2025. Beauty of these devices will be that these are able to communicate to each other with the help of Internet and having the capability of exchanging information and able to take decision without human intervention. Figure 1 shows concept of IoT devices:

Smart Home	Internet of Things	Smart Cities
TV/LED/etc		Transportation
Home Monitoring		Camera
Smart Watch		Smart Vehicles
Firms/Factories' Appliances		Health care Appliances

Fig. 1 – Internet of Things

Let us take an example of smart home to understand IoT application. Smart home consists many objects inside your home to understand IoT application. Smoke detectors, home appliances, bulbs, windows etc are the part of IoT applications. Suppose a person forget to switch off bulb when he was going to office, with the help of IoT enabled mobile he will be able to off the bulb from remote location.

2. IOT ARCHITECTURE

In a general, there are three major layers in an IoT architecture but these layers are getting more advanced as new technologies are kept on introducing to improve the performance of IoT devices. Sethi and Sarangi [1] have stated architecture, protocols, and applications of IoT.

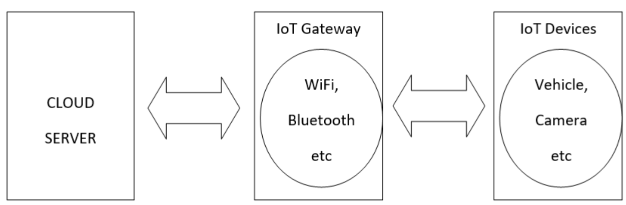

Fig. 2- IoT Architecture

IoT Devices: Sensors connected to IoT devices are able to collect live data from the surrounding environment. Basically, it is a source data, different types of sensors which will perform their task accordingly like temperature sensor will sense the temperature and motion sensor will sense the motion. IoT devices collect the information gathered by sensors and passed to IoT gateway.

IoT Gateway: IoT data acquisition systems and gateway that collects the large volume of raw data will translate into meaningful data streams by performing initial processing and transfer it to cloud server for further processing and analysis. Data will transfer through Wi-Fi, Bluetooth, WAN, ZigBee etc. An IoT gateway can perform the following tasks:

- Buffering, Data caching, and streaming
- Layout device to device communication
- Ensures security between the connected devices
- Can perform system diagnostic
- Can do basic data analytics and data visualization
- Guarantees data aggregation

Cloud Server: It is a centralized server where data is received, stored processed and analyzed in depth to perform the specific task. This is the place where machine learning is introduced, and various algorithms are working to analyze the data to take decision. Once the data is processed and analyzed the result is send to the end user either by alarms on their phones or sending them notification through email or text message to act on it. For example, if someone press your door bell you will get notification on your phone.

3. IOT PROTOCOLS AND STANDARDS

IoT protocols are set of rules which allow exchange of data between various connected devices in a structured and meaningful way. As we have seen in previous section data collected from various sensors is transferred to IoTdevices, then forwarded to gateway and then reached to cloud server for processing and finally the resultant is transported to user applications. Shadi et al. [2] explains the various protocols involved in data communication from one layer to another layer. The IoT system can function and transfer information with the support of IoT protocols and standards. The IoT protocols can be classified as follows: a) IoT Network Protocol b) IoT Data Protocol

IoT protocols can be classified into two major types: IoT Network Protocols and IoT Data Protocols.

IoT Network Protocols: It is a protocol which is used to connect devices over the network. These protocols permit end to end data transmission within the specified network boundaries. Following are the various IoT network protocols.

Bluetooth: This wireless technology is quite popular and basically used for short range communications. It operates at 2.4 GHz in ISM band. It operates in two modes as a master and as a slave. A master initiates an exchange of data and slave respond to the master. Each Bluetooth device may be a master or slave at any time, but not simultaneously. Bluetooth Low Energy (BLE) is a newly introduced protocol under IoT protocols which is used to achieve the functionality of Bluetooth over low power consumption.

ZigBee: It is an IoT protocol which supports low rate of data transfer between short distances.

The range of connectivity is 100 meters between two nodes. It also operates at 2.4 GHz and most commonly used in home automation. It is easy to install and maintain.

LoRaWAN: It stands Long Range Wide Area Network. It is an IoT protocol for wide area of network which covers long range, which is supported by devices that consume less power. This protocol is mainly used in smart cities where there are millions of low power devices are installed. TheLoRaWAN uses varied frequency in variety of networks. In urban area the range is 2 km to 5 km and in suburban area about 15 km.

WiFi: It is also one of the most commonly used technique for communication when we need large quantity of data to be transferred at high speed. The frequencies are 2.4GHz and 5GHz bands. It covers approximately 50 m but consumes more power. It is working with Internet Protocol (IP) standard.

IoT Data Protocols: These set of protocols provide end to end communication at the other side which is user's side through hardware devices, and it does not require any internet connection. IoT data protocols use wired or cellular network for connectivity. Following are the popular IoT data protocols.

Message Queue Telemetry Transport (MQTT): It is a message protocol and preferred for all devices that are IoT based. The basic utility of MQTT is to collect data from heterogenous devices. It also facilitates the remote monitoring of these devices. It works on the TCP for reliable transmission. MQTT protocol consists three components subscriber, publisher, and broker. Publisher generates and transmits data to the subscriber and takes help of broker in this process. The basic role of publisher is to check the authenticity of publisher and subscriber.

Constrained Application Protocol (CoAP): It was designed to translate the HTTP (Hyper Text Transfer Protocol) model so that it could be used inlimited gadgets. This protocol works on request-response model between client and server. It establishes secure communication using UDP (User Datagram Protocol) between two connecting points.

Advanced Message Queuing Protocol (AMQP): The basic role of this protocol is to transmit data to and fro between cloud and other connected devices. The data transmission is secure and seamless. It is an application layer protocol and designed for middleware environment. It consists of three necessary components: Exchange, Message Queue and Binding. The role of exchange is to receive message and put them in queue. The messages received are being stored by Message Queue until these messages are being utilized by client app. The role of binding component is to bind or connect exchange and message queue component.

Lightweight Machine to Machine (LwM2M): The protocol is being used for self-monitoring of machines. As per the changes in environment system makes required changes to be adapted in the changed environmental conditions. Its basic role is to manage light weight devices that uses low power.

Extensible Messaging and Presence Protocol (XMPP): The protocol is based on XML language and is basically used as communications protocol. For exchanging messages in factual time, this protocol makes use of push mechanism. The protocol allows various mode of communication like multi-party chat, voice and video calls, collaboration, lightweight middleware, content syndication, and generalized routing of XML data. However, there are certain limitations of this protocol as it does not offer– Quality of Service and end-to-end encryption.

4. MACHINE LEARNING (ML)

Machine learning is a hottest trend in today's market, and it is predicted that by 2025 nearly 50% of the products are based on machine learning. ML is a subclass of AI and it is a technique where machines learn automatically from past experiences and not being programmed for it explicitly.

It uses statistical methods to enable machine to improve experience. It is a core of many technologies advancement like self driving car by Tesla, face reorganization in apple iphone etc.

ML algorithms tend to make a mathematical model which is based on sample data technically known as "training data". The model is used further to make decisions and predictions based on that training data and is not being programmed explicitly to do such tasks. Sun et al. [3] surveys various techniques of machine learning and its application in wireless networks.

5. CLASSIFICATION OF MACHINE LEARNING

Supervised Machine Learning: In supervised machine learning, the machine is trained using labeled training data. Here trainer is having input data and as well as output data that is called as training data. The machine is trained with training data under supervision of trainer. Learning will stop when machine will achieve an acceptable level of performance. Finally, machine is ready to predict the output for any new set of input data.

For example: Suppose that in an organization biometric machine is trained by giving the thumb

Impressions of an employee in a different angle. Once machine is trained it will label that impression with employee name or employee ID and in future employee will be easily identify with his thumb impression.

Unsupervised Machine Learning: In this type of machine learning machine is trained by unlabeled data. In unsupervised learning we have only input data no output data is available.

Training data is grouped in a different cluster based on their characteristics and each cluster is labeled.

For example: Suppose that we have data of some cricketers like name, total run scored and number of wickets taken. Trainer will train the machine in such a way that if any cricketer scored more runs but took fewer wickets labeled as batsman and if scored less runs and took more wickets labeled as a bowler. So, in future machine will easily predict either cricketer is batsman or bowler.

Reinforcement Machine Learning: It is also called as semi-supervised machine learning. In this type of machine learning large amount of input data is available but only some of the data is labeled. This method is lying between supervised and unsupervised learning. It is based on reward-based learning or work on the principle of feedback.

For example: Suppose that trainer will give dog image as input to machine and check whether machine identifies it or not. If machine will identify it as cat image trainer will give negative feedback to machine by saying it is a dog image. So, next time when there is input of dog image machine will identify easily.[4][5]

6. IMPACT OF INTERNET OF THINGS AND MACHINE LEARNING

Internet of Things (IoT) and Machine Learning together have a great impact on each domain. Machine Learning and the Internet of Things (IoT) separately are both powerful, but combining the two emerging technologies has immense benefits for enterprises willing to achieve real digital transformation.

Increased efficiency in operations and productivity

Many organizations that combine AI and IoT applications can gain increased profitability for their operational activities. As per a survey conducted in 2018, it was discovered that 92% of senior executives have a firm belief that technologies will have a positive impact on productivity. Machine learning algorithms that can process data and do analysis based on predictions in a way that humans can't do is the new technological goal to achieve. The goal is to be able to calculate large data sets in a short period of time and provide suggestions for workplace activities to work more efficiently. You can buy research papers to further read about the survey results.

7. ENHANCED SECURITY PROTOCOLS

Both AI for machine learning algorithms and IoT are exceptional when it comes to enhancing workplace security. Where AI can automate the security footage scanning, IoT activates gates to open and shut by sensing the presence of an intruder. Not only are they great individually but invincible when combined to provide an extra layer of security. Enterprises can now easily catch potential security threats and easily automate responses for quick and efficient rate back.

8. CONCLUSION

In conclusion, both machine learning, AI and IoT are not only great individually but exceptional when combined together. It is required hard work, high mental strength and analytical power to develop these verities of applications to serve human beings. Today, smart buildings can automate central heating, air conditioning, lighting, elevators, fire-safety systems, the opening of doors, kitchen appliances, etc, using the IoT and machine learning (ML) techniques.

In conclusion, IoT can be seen as an interconnected network of bodies whose brain is the artificial intelligence that gets experience through ML techniques.

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JOURNEY OF DATA CENTERS AND ITS INFLUENCE

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ABSTRACT

In this world of apps, big data, and everything digital, you can't stay on top of your industry without computer infrastructure. If you want to store things, the answer is a data center. Its main role is to support all important business applications and responsibilities that all organizations use to do in their business. In the days of the behemoths, our first computers, a data center could have one large computer. As equipment became smaller and cheaper, data processing needs began to increase and rise sharply. We started connecting multiple servers together to increase processing capacity We connect them to social networks so that people can access them, or the information in them, remotely. Large numbers of these servers combined with related equipment can reside in a room, an entire building or in building blocks. Today's data center may have thousands of very powerful and very small servers running 24/7.

Keywords: Servers, Switches, Colocation data centers, Cables.

1. INTRODUCTION

A data center is a physical center used by organizations to process their sensitive applications and data. The data center design is based on a network of computer and hardware resources that provide shared applications with data. Key elements of a data center design include routers, switches, firewalls, storage systems, servers, and system delivery controls.

In this world of apps, big data, and everything digital, you can't stay on top of your industry without computer infrastructure. If you want to store things, the answer is a data center. Its main role is to support all important business applications and responsibilities that all organizations use to do in their business.

Figure 1. Data Center

In the days of the behemoths, our first computers, a data center could have one large computer. As equipment became smaller and cheaper, data processing needs began to increase and rise sharply. We started connecting multiple servers together to increase processing capacity. We connect them to social networks so that people can access them, or the information in them, remotely. Large numbers of these servers combined with related equipment can reside in a room, an entire building or in building blocks. Today's data center may have thousands of very powerful and very small servers running 24/7.

2. HISTORY OF DATA CENTER

In 1940, once thought that data center means, it holds a lot of computers inside it, means a huge big computer rooms. ENIAC was one of the first data center. At that time, it was very difficult to use computers and many cables and other support devices were expensive. It requires a lot of floor space to accommodate and requires racks to install devices. One mainframe requires a lot of energy and cooling was a big problem. With the advent of microcomputer in the 1980s, users have tried to set it up where there is little space and they don't care about the working environment. With the development of more Information Technology (IT) operations, the user became more concerned with maintaining IT resources. The UNIX operating system came in 1970 after that free Linux operating system arrived in 1990. Using these types of PC computing PC bought the term "Server". The timesharing app relies on a client server model to make it easier to share different resources to multiple users. Inexpensive communication equipment with new standards for placing IT machines in a sequential design that puts servers in a specific room within the company. The use of the term "data center", as it is used in specially designed computer rooms, began to gain popular acceptance at this time. It is noted in an article entitled History of Data Center Development (RihardsBalodis) that the name of the data center itself has been used since the 1990s.

3. BENEFITS OF DATA CENTER

List of commonly identified benefits that can get from Data Center (DC) are:

- DC Reduce our cost of information technology.
- The need for IT staff should be reduced as well as the difficulty in retaining skilled IT staff.
- DC provides a high-quality data source and state of the art network infrastructure.
- Rapid increase in network reliability and scalability.

As the business grows and needs more network resources; DC can easily meet the new requirement.

- DC-managed services provide IT staff with the ability to work, monitor and maintain the system easily.
- DC-managed services provide continuous performance. continuous support, safety, flexibility 24x7 days.

4. ROLE OF THE DATA CENTER

Data centers are an integral part of the enterprise, designed to support business applications and provide services such as:

- Data storage, management, backup and recovery
- Productivity applications, such as email
- High-volume e-commerce transactions
- Powering online gaming communities
- Big data, machine learning and artificial intelligence

There are more than 7 million data centres in the world now, according to reports. Almost every company and government agency either creates and maintains its own data centre or has access to another's, if not both. Many choices are available today, including renting servers at a colocation facility, employing third-party data centre services, or using public cloud-based services from Amazon, Microsoft, Sony, and Google.

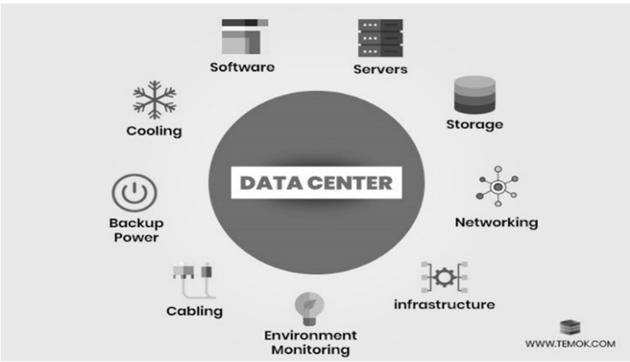


Figure 2

Of course, in 2021, you could simply outsource all data processing to a third-party provider such as Amazon Web Services or Google Cloud. However, giving another party access to data isn't always straightforward for a company, and it's generally more expensive at scale.

5. COMPONENTS OF A DATA CENTER

Servers

Servers are an integral part of building a data center network, which stores, analyzes and transmits the largest data and directly determines the performance of data center networks. Servers can be divided into 3 categories depending on the situation:

- Blade Servers
- Tower Servers
- Rack Servers

Switch

Switches are interconnecting devices that allow several devices to communicate with one another. As far as the DCN network is concerned, switches are the architecture's backbone. Hardware addresses are used for all switch processing. Cisco Nexus 7000 Series, Ruijie RG-N18000 Series, Huawei Cloud Engine 12 800 Series, and Arista 7500E Series switches are the most often used core switches in data centre environments. Cisco Nexus 3064 Series and Arista 7050QX Series switches were used as ToR switches.

Cable

Cables are used to connect switches, storage devices, and servers, which are all necessary components of a data center network. Coaxial, twisted pair, and fibre optic cables are all options. The choice of cable medium is mostly determined by the application.

Storage

Network attached storage (NAS) and Storage area network (SAN) are two types of storage systems commonly used in data centers (SAN). A file-oriented storage network in which storage units are directly connected to a local area network is known as NAS. A high-speed storage network, or SAN, allows servers to access data at the file or block level more quickly. EMC Symmetrix VMAX 40 K, HP 3PAR StoreServ 10 000 Storage, Huawei OceanStor N8500, NetApp FAS6200 Series, and IBM System Storage N7950T are some of the most regularly used storage systems.

Rack

Rack is an integral part of a data center network that supports a variety of features such as server, storage devices and flexibility to use space and easy management. Open racks and cabinets are two major types of racks. Open Racks are flexible to manage and organize, they can continue to be divided into four posts and two post racks. Cabinets are stable and secure. The most widely used racks in the data center Network are Emerson Network Power DCF Optimized Racks, Siemon V600 Data Center Server Cabinet, Black Box Freedom Rack Plus with M6 Rails (open rack post), Dell PowerEdge 4820 Rack Enclosure, HP 11642 1075mm Shock Universal Rack.

6. TYPES OF DATA CENTERS

There are different types of data centers available. Their classification depends on whether or not they are owned by one or more organizations, how they fit into other data centers, what technology they use in order to compute and store, and energy efficiency.

ENTERPRISE DATA CENTER

Enterprise data center is actually a private facility which is designed for the purpose of supporting anindividual company. It can be on-premises or off-premises at a site, according to the customers' preferences. It is well suited for those organizations which have a unique network requirement or those that make huge revenue to take advantage of economies of scale.

The vital benefit of this data center is that it is easy for companies to track significant parameters (bandwidth and power usage) and keep their software (mostly monitoring tools) updated. This makes it simpler to calculate upcoming needs and scale accordingly. However, it all comes with a cost: Developing enterprise data center facilities requires large capital investments, labor, maintenance of costly equipment, and occurring expenditures of time.

COLOCATION DATA CENTERS

This type of data center primarilyconsists of one data center owner whosells space, power and cooling to different enterprise and customers in a particular location.This is a very popular service that is used by businesses that may not have the required resources needed to maintain their personal data center, but still want to enjoy all the benefits.

It sometimes also refers to the idea that a company can have their tools, resources and equipment located in multiple places. For example, a company can have their servers located at 3 or 4 different colocation data centers. This is crucial, especiallyfor those companies that have large geographical footprint, and they want to make sure their computer systems are located as near as possible to their physical offices.

EDGE DATA CENTERS

These data centers are smaller facilities that deliver cloud computing resources and information to end users. They are positioned close to the end-user geographically. They generally connect to a larger central data center or it can be multiple data centers. Edge computing allows businesses to reduce latency and improve customer experience by processing data and services as near to the end user as possible.

For data center managers, latency has always been a problem, but it has become a major concern in recent years as a result of big data, the Internet of Things, cloud and broadcast services, and other technologies. End users and devices want anywhere, anytime to access apps, services, and data stored in today's data centers, and delays are no longer tolerable. As a result, several businesses are establishing edge data centers as a high-performance and low-cost way to supply content and performance to customers.

CLOUD DATA CENTER

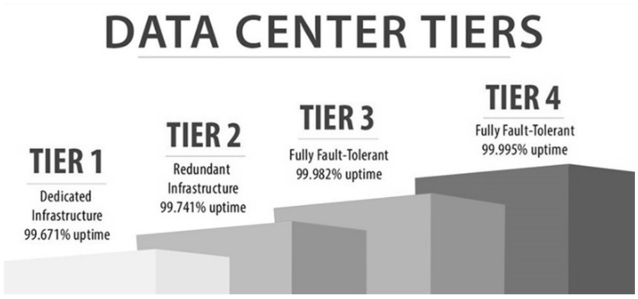
In a cloud data center, the actual hardware is operated and managed by a cloud company, usually with the help of a third-party service provider. Allows clients to use websites / applications and manage data within the virtual infrastructure running on cloud servers. Data is split and doubled in multiple locations as soon as it is uploaded to cloud servers. In the event of any unexpected events, the cloud provider ensures that there is a backup of your backup as well.

A few cloud service companies offer custom clouds, giving clients one-off access to their cloud space, known as private clouds. Public cloud providers, on the other hand, make services available to the public online. Amazon Web Services, Microsoft Azure is one of the most popular social media platforms.

Cloud services have several advantages over local data centers. With the cloud, the company only pays for the number of hardware resources they use. No need to worry about regular server updates, security, cooling costs, etc. The monthly subscription fee structure includes these costs.

7. DATA CENTER TIERS

Tiers in data centers are established performance levels for servers that contain data and information. The data center tier you choose determines the level of protection and the amount of potential downtime you'll have over the course of a year. The four data centers are ranked from I to IV, with I being the least efficient and IV being the most efficient.



TIER 1 | BASIC CAPACITY

Tier 1 data centers are the simplest and most basic of them all. The uptime level is roughly 99.671 percent; however, it is a little lower than other tiers because the data center has no or limited redundancy. As a result, power and cooling equipment only has access to a single channel, resulting in annual downtime of 28 to 29 hours. Tier I data centers are not required to have a lack of functionality, which means they are exempt from fundamental storage requirements such as light power and cooling configuration and Uninterrupted Power Supply (UPS), as well as other industry standards.

A Tier 1 data center is an excellent choice for small organizations with minimal sophisticated requirements, as it meets their needs quite well. Data centers are required by most small organizations for record-keeping and corporate correspondence responsibilities, thus total and unfailing reliability is not always a high priority. In essence, the stakes are minimal, therefore the economic benefit of operating merely a Tier 1 data center surpasses the benefits of higher-tier data centers.

TIER 2 | REDUNDANT CAPACITY COMPONENTS

Tier 2 data centers have the same or improved components and features as Tier 1 data centers, but they have redundant capacity or infrastructure components. The Uptime Institute introduced the second tier of data centers. A power component or piece of equipment in a Tier 2 data center can be replaced or removed without affecting the power supply to the core computing components. It promises 99.741 percent uptime with only about 22 hours of downtime each year. Medium-sized businesses are the most likely to employ it.

Although neither of these data centers has the performance capabilities of Tiers III and IV, they still provide a decent combination of performance and cost. Tier II data centers, like Tier I data centers, are frequently employed by small enterprises searching for a less expensive data storage solution. These data centers aren't fully functional, but they're more secure and trustworthy than other Tier I options.

TIER 3 | COMPREHENSIVE REDUNDANCY

The Tier 3 data center, which has a 99.982 percent uptime, is an alternative for major businesses. This means the data center will be unavailable for no more than 1.6 hours each year. A Tier 3 data center has a complex infrastructure and a high level of redundancy, as well as numerous power and cooling lines, uptimes improve significantly. All of the components are also wired to a variety of power sources. If any of this fail, others may be employed in their place, ensuring that performance is not harmed.

If necessary, maintenance and repairs can be performed without shutting down the system. In addition, various safeguards are in place to secure the entire data center in the event of a power failure. Tier three data centers provide significantly higher levels of reliability than tier one and two data centers. Tier three data centers are, thus, an obvious choice for organizations or institutions that place a high value on stability.

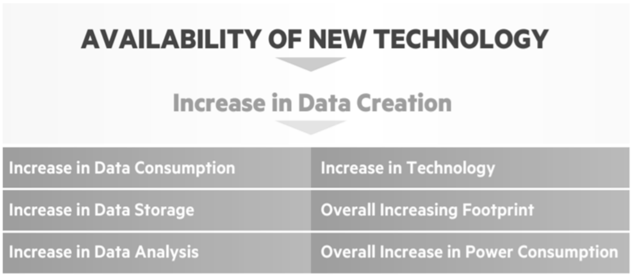
TIER 4 | FAULT-TOLERANT

Tier 4 data center security is the highest level of data center security, and it is typically used by enterprises that require constant availability, which is the case for the majority of businesses today. They have a 99.995 percent uptime, which translates to an annual downtime of no more than 26 minutes. They also have completely redundant 2N and 2N+1 infrastructure. There is a completely mirrored system on standby, independent of the core system, with 2N redundancy. This means that if something goes wrong with a component in the main data center, each component has an identical duplicate ready to take over. This is by far the most secure method of protection available.

Two generators, two UPS systems, and two cooling systems support all components. Each path is self-contained, so a single failure in one does not result in a cascade of failures in other components, as is the case with lower levels. Tier IV data centers must have a 96-hour power outage protection, which cannot be connected to any external source and must be self-contained.

8. ADDRESSING THE ISSUE | RISING POWER DEMANDS

The rise of knowledge creation, consumption, and storage is being aided by ever-improving technology. A domino effect occurs as a result of these increases. The tremendous rise in the amount of data we collect and store each day is driving this growth in data creation. According to IDC, global data will reach 163 zettabytes by 2025, which is equivalent to watching the whole Netflix collection 489 million times.



While efforts to improve the energy efficiency of data centers—such as cooling system upgrades, expanding the operating parameters of data halls, and optimizing air flow through the use of smart sensors and controls—will continue to be a priority, organizations are also gaining significant sustainability benefits by switching to clean energy. Companies are seeking for solutions to mitigate the increased environmental effect of their data centers as more data is captured, analyzed, and stored. Many are building green-certified data centers, but getting renewable energy to power these high-energy-use buildings has the most impact. A growing number of major multinational corporations are demanding that their data center suppliers employ renewable energy for their data center energy needs.

9. THE SOLUTION | RENEWABLE ENERGY

Solar, wind, water movement (hydroelectricity), biofuels (fuel derived from organic materials), and geothermal activity are all examples of renewable energy sources. To put it another way, renewable energy originates from sources that do not deplete when consumed and do not generate damaging carbon emissions into the atmosphere.

Renewable energy sources are becoming more inexpensive and, in more demand, than their brown and grey counterparts. Furthermore, technological advancements are boosting their availability for purchase. "Renewables grab two-thirds of worldwide investment in power plants through 2040," according to the International Energy Agency (IEA), as they become the least-cost source of new generation for many countries.

IT'S BETTER FOR THE PLANET AND FOR BUSINESS

Green data center practices are not only excellent for the environment, but they are also good for business. According to AFCOM's 2018 State of the Data Center Industry study, 42% of respondents have deployed or plan

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to deploy renewable energy in the coming year. And 60 percent of those polled said that this new renewable energy source will help them cut their data center's total TCO while also achieving green goals. Using fewer nonrenewable resources equals lower utility bills overall.

LOWER COSTS WHILE MAINTAINING CONSISTENT PERFORMANCE

Reduced energy consumption does not have to imply a reduction in power efficiency. Renewable energy is now widely regarded as a reliable source of power that can assist reduce Power Usage Efficiency (PUE). A lower PUE indicates that energy is being used more efficiently, resulting in cheaper operating expenses for you. As of 2018, Google has a PUE of 1.12 across all of its data centers, which are powered entirely by renewable energy. For comparison, a PUE of 1 is considered ideal.

IMPROVE BRAND IMAGE AND CUSTOMER LOYALTY

Consumers are becoming increasingly conscious of and concerned about social and environmental issues. They consider a company's principles to be just as vital as its ethical business practices. According to a survey performed by the National Renewable Energy Laboratory, 80 percent of consumers in the United States are concerned about the use of renewable energy. Sustainability is no longer regarded as a desirable goal. Rather, it's becoming a crucial organizational foundation for surviving in a competitive landscape and acquiring the trust and allegiance of customers. “Energy management has become table stakes for competitiveness,” according to Deloitte.

10. CONCLUSION

A data center has a significant impact on economic growth and organizational efficiency. Because of the significant investments in data centers. Data centers should be appropriately planned, taking into account the available budget as well as the tolerance for faults and disturbances. The company's current and long-term business demands must be anticipated and aligned with its IT strategy. When attempting to construct a sustainable and scalable data center, the Tier 4 level must be chosen as the benchmark. The larger goal in the future is to migrate to a more sustainable solution, which might include more energy sources and cloud computing.

This will be a challenge for society, but it will also provide chances for more collaboration among industry, government, and research institutions.

Because the world's culture continues to require a speedy and continuous network that makes up the Internet, data centers will continue to proliferate in some form, whether in-house, cloud, or hybrid. Due to the ongoing demand for electricity by data centers, supplying energy from alternative sources will be difficult; nevertheless, some organizations have been successful in using solar, wind, hydropower, and geothermal to serve the facility in a greener capacity.

As detailed in this study, we anticipate that future generations of green data centers will increasingly rely on cloud providers. Further study in that direction is part of the hybrid model used here. The ability to use smart metering in conjunction with power grid demands opens up possibilities for a variety of knowledge centers. Using data centers’ storage capacity and self-production of power during peak utility periods, as well as other energy sources, indicates the road to a more sustainable next generation of information technology.

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ARTIFICIAL INTELLIGENCE - DISCOVERING THE OPTIMAL MOVE FOR AN OPPONENT IN TWO PLAYERS GAME BY MINIMAX ALGORITHM

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ABSTRACT

Artificial intelligence is the imitation of human intelligence processes by machines, particularly computer systems. Game Playing is a significant area of artificial intelligence. In this paper I will reveal that when two players play a game then how minimax presents a best move for the player presuming that opponent is also playing optimally. We will also illustrate the properties as well as limitations of Minimax algorithm. This paper will help to students, research scholar, in understand that how Mini-Max algorithm discover the best move for a player.

Keywords: Artificial Intelligence, Mini-Max, Optimal Move, Terminal, Backtracking, DFS.

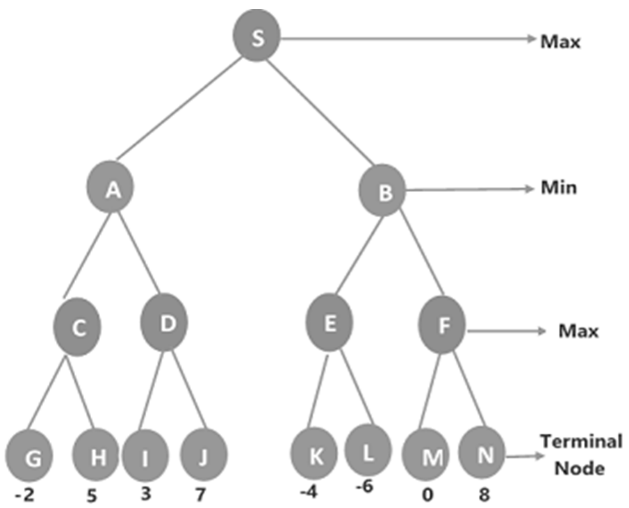
1. INTRODUCTION

In computer science, a tree represents to a nested branch in which we initiate with first "root" node known as Level 0, and branching from this root node, we may have n number of "child" nodes known as Level 1. We can say these "child" nodes branch off into "grandchild" nodes as Level 2. Therefore, we can say that, from the view of the Level 2 nodes, the nodes at Level 1 are the "parent" nodes and the nodes at Level 2 are the "children" [1].

A game tree in the game theory is defined as a tree with nodes denoting the game states and edges of the tree are possible moves of the player from one position to another. Tree searching is fundamental and computationally intensive problem. It is a combinative optimization algorithm for search in a game tree [2]. Game tree search algorithms such as minimax have been used with huge success in chance-based oppositional games such as Chess or Checkers [3].

Mini-max algorithm is a backtracking (go into reverse) algorithm which is used in game theory and decision making. It presents a best move for the player presuming that opponent is also playing optimally. It is mostly used for two players game (one player is called MAX and other player is called MIN.) playing in Artificial Intelligence i.e., Chess, Checkers, tic-tac-toe, and others tow-players game. Both the players fight it as the opponent player gets the minimum advantage while they get the maximum advantage, where MAX will select the maximized value and MIN will select the minimized value. It performs a DFS (Depth First Search Algorithm) algorithm for the exploration of the whole game tree. It proceeds all the way down to the terminal node of the game tree, then backtracked the tree as the recursion. It discovers the best move for the player by comparing the terminal values to each other. [4].

2. OBJECTIVE

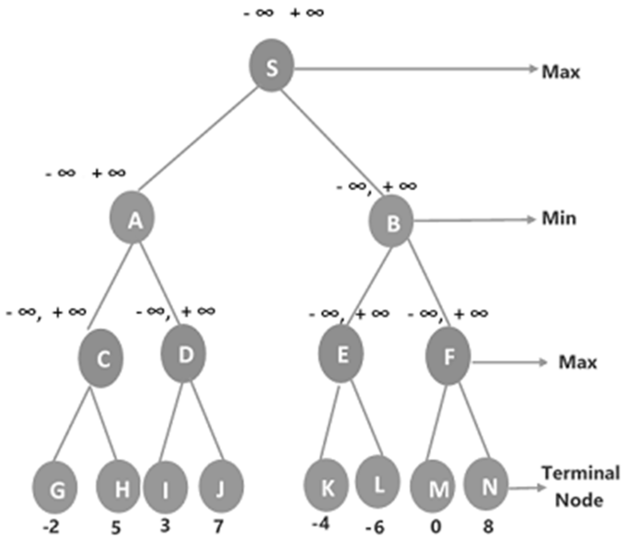


To Find out the optimal move for the player by using the minimax algorithm. The Game tree is given below:

3. METHOD

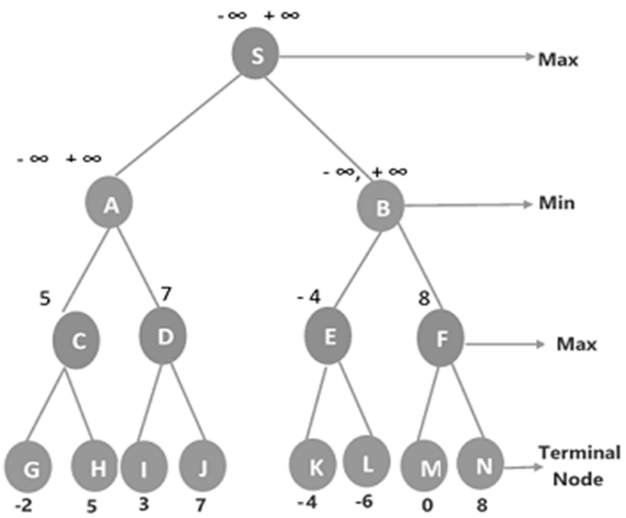
Step by step we will illustrate and discover the optimal move for opponent

A. Step-1: In the below tree diagram, let's take S is the first state of the tree. Presume that maximizer takes first chance which has worst-case initial value =- ∞, and minimizer will take next chance which has worst-case initial value = +∞. Since A and B are the child of S and C, D and E, F are the child of A and B respectively. Hence the initial values of S (- ∞, + ∞) will move among all the Childs.



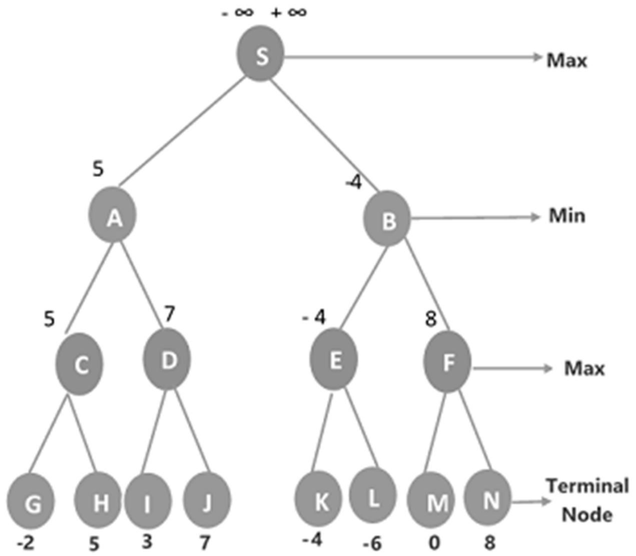
B. Step 2: Now, we search the utilities value for the Maximizer, its initial value is -∞, therefore, we will compare each value in terminal state with initial value of Maximizer and determines the higher nodes values. It will discover the maximum value among the all values.

- Maximum value for node C: max (-2, - -∞) => max (-2,5) = 5
- Maximum value for node D: max (3, -∞) => max (3, 7) = 7
- Maximum value for node E: max (-4, -∞) => max (-4, -6) = -4
- Maximum value for node F: max (0, -∞) = max (0, 8) = 8



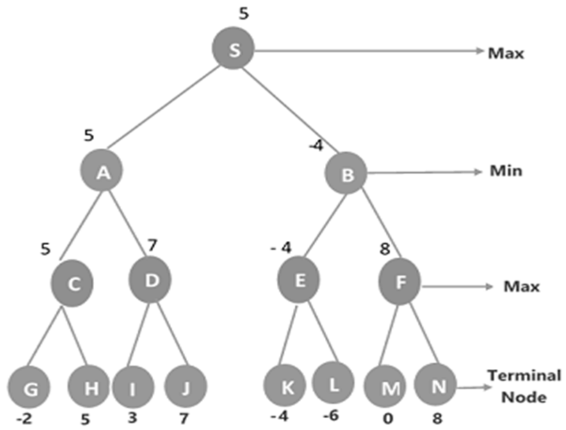
C. Step 3: In the next step, it's a chance for minimizer, so it will compare all nodes value with +∞, and will discover the minimum value among the all values for the A and B nodes.

- Minimum value for node A= min (5, +∞) => min (5, 7)= 5
- Minimum value for node B= min (-4, +∞) => min (-4, 8)= -4



D. Step 4: Now it's a chance for Maximizer, and it will again select the maximum of all nodes value and find the maximum value for the root node.

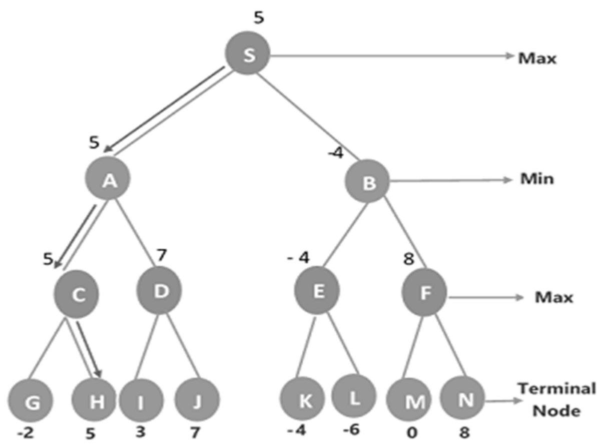
- Maximum value for node A: max (5, - -∞) => max (5, -4) = 5



4. RESULT

This is the complete workflow of the minimax two player game.

S → A → C → H



5. PROPERTIES OF MINI-MAX ALGORITHM

- **Complete-** It is a complete algorithm. If the solution exist it will definitely discover the solution, if tree is finite [5].
- **Optimal-** It provides the optimal solution if both opponents are playing optimally.
- **Time complexity**- Since it performs Depth First Search (DFS) for the game-tree, hence the time complexity of Min-Max algorithm is $O(b^d)$, where b is the number of legal moves at each point of the game-tree, and d is the maximum depth of the tree [6].
- **Space Complexity-** Space complexity of Mini-max algorithm is also similar to DFS which is O (b X d).

6. LIMITATION OF THE MINIMAX ALGORITHM

The main disadvantage of the Mini-Max algorithm is that it gets certainly slow for complex tow player's games such as Go, Chess, etc. This kind of games has a vast branching factor, and the player has lots of choices to choose. This drawback of the minimax algorithm can be improved with the help of **alpha-beta pruning**.

7. CONCLUSION

Minimax is a backtracking algorithm which is used in decision making and game theory. It is for two-player games such as Zero-sum game, Tic-Tac-Toe, Chess etc., and it considers, both the players are playing optimally. It is widely applied in two player turn based games. It may be a good choice when players have complete information about the game.

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A CRITICAL REVIEW ON DIGITAL MARKETING STRATEGIES DURING TURBULENT TIMES

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ABSTRACT

Digital Marketing denotes to the marketing of any product or service in digital form. For example, marketing using smartphones, computers, laptops, tablets, or any new digital devices. Digital marketing is also a form of direct marketing that links consumers with sellers electronically using shared technologies like emails, websites, online forums and newsgroups, interactive television, mobile communications etc. Corona Virus attack on global level has thrown many challenges to many functional areas of business, is not an exception in marketing too. This turbulent outbreak has affected the business worldwide drastically. So, companies are becoming more dependent on digital strategies. Companies are now also in a position to lose millions due to the cancellation of events and programs, which they have planned for 2020. The purpose of this document is to study various marketing strategies adopted by companies during the turbulent period of Covid19 and to study digital marketing strategies and marketing strategies. Creative that is applied during Covid19. Content is based on several publications and what is happening in the business world. This document is based on secondary data and is based on existing literature and internet sources. Various articles, studies, reports, newspapers, magazines, various websites and information on the internet were studied. Companies spread awareness about the pandemic through their promotional campaigns. In addition, marketers are aggressively promoting online channels, online media for consumption, and deferred payment systems using creative marketing strategies.

Keywords: Marketing Strategies, Covid-19, Digital Marketing, Internet Marketing, Social Media.

1. INTRODUCTION

Marketing shows the steps a company takes to promote the purchase of any product or service. Companies pursue customers or consumers for their products or services through the help of marketing. Digital Marketing states that the marketing of any product or service is in digital form. For example, marketing through smartphones, computers, laptops, tablets or other digital devices. Digital marketing is a form of direct marketing that connects consumers with sellers electronically using interactive technologies such as email, websites, online forums and newsgroups, interactive television, mobile communications, etc.

The term "Digital Marketing" was first coined in the 1990s. Digital marketing is also known as "online marketing", "Internet marketing" or "web marketing". This is known as “internet marketing” because with the advent of the internet, there has also been a strong growth in digital marketing. The main benefit of digital marketing is that marketers can sell their products or services 24 hours and 365 days, lower costs, acquire skills, inspire customers to buy more and restore service to customers. It aids many-to-many communication because of its unnecessary level of connectivity and is usually equipped to sell a service or product in a timely, appropriate, non-public and cost-effective manner.

In 2005, there were approximately 1.1 billion Internet users, which at that time represented 16.6% of the population. By 2020, the number of internet users is about 4.8 billion, the percentage of the population increases to 62 percent, and there is a direct relationship between digital marketing and the internet. Countries like India and China have the largest number of internet users, so it has a great opportunity.

Marketing strategy refers to the company's overall game plan to reach potential consumers and convert them into customers of the products or services provided by the company. Let's discuss some definitions of marketing strategy; The marketing strategy contains the company's value proposition, key brand messages, data on target customer demographics, and other high-level elements. A marketing strategy consists of a set of internationally integrated but externally focused options aimed at the organization aimed at its customers in the context of a competitive environment. Creative marketing refers to the process of selling objects using creative talents in the fields of design, art, music, architecture, and interior design.

It is evident that the turbulence of Covid-19 has drastically changed the way we live. The same is true for all businesses as every business today is struggling to maintain its presence in the market. While things seem uncertain right now and hard to predict, it is important to make some effective changes to our digital marketing strategy to meet the needs of our customers. There was a 90% drop in in-person store visits in the one month following the virus pandemic. This affects businesses and advertisers as foot traffic is limited, resulting in a digital transformation for every business.

2. REVIEW OF EXISTING LITERATURES

Digital marketing is the use of technology to assist marketing activities in order to increase customer knowledge by meeting their needs **(Chaffey, 2013)**. In developed countries, companies have understood the importance of digital marketing. For businesses to succeed, they need to combine online with traditional methods to more accurately meet customer needs **(Parsons, Zeisser and Waitman, 1996)**.

The introduction of new technologies has created new business opportunities for marketers to manage their websites and achieve their business goals **(Kiani, 1998)**. Online advertising is a powerful marketing vehicle to build brands and increase traffic for businesses to achieve success **(Song, 2001)**. Expectations in terms of generating results and measuring success for money spent on advertising, digital marketing is more cost-effective to measure ROI on advertising **(Pepelnjak, 2008)**. Today, the monotonous advertising and marketing techniques have been replaced by digital marketing. Moreover, it is so powerful that it can help revive the economy and can create great opportunities for the government to function more efficiently **(Munshi, 2012)**. Singaporean companies have tested the success of digital marketing tools as being effective and useful for delivering results. **(Teo, 2005)**. More importantly, the growth of digital marketing is due to rapid advances in technology and changing market dynamics **(Mort, Sullivan, Drennan and Judy, 2002)**. In order for digital marketing to deliver results for businesses, digital content such as accessibility, navigation and speed are defined as key characteristics of marketing **(Kanttila, 2004)**. Another proven tool for achieving success through digital marketing is the use of word of mouth on social media and popularization of the site **(Trusov, 2009)**.

In addition, WOM connects to create new members and increase website traffic, which in turn increases visibility in terms of marketing. Social media with the outstanding example of Facebook has opened doors for companies to communicate with millions of people about products and services and opened new marketing opportunities in the market. This is only possible if managers are fully aware of using communication strategies to engage customers and improve their experience **(Mangold, 2009)**. Marketers must thoroughly understand online social marketing campaigns and programs and understand how to do them effectively with performance metrics. Like markets, dynamics around the world are changing with regards to young audiences' accessibility to social media and usage. It is important that a strategic integration approach is adopted within the organization and in the marketing communications plan **(Rohm and Hanna, 2011)**.

With the above review, we can assume that the GST is a tax reform, which will change the country landscape in favor of this review study. Blogs as a digital marketing tool have succeeded in creating an impact to increase sales revenue, particularly for products where customers can read evaluations and write comments about personal know-hows. For businesses, online reviews have worked very well as part of their overall strategic marketing strategy **(Zhang, 2013)**. Online service tools are more influential than traditional communication methods **(Helm, Moller, Mauroner and Conrad, 2013)**. As part of research, users have been shown to experience increased self-esteem and enjoyment when they adapt to social media, which in itself is a motivational signal for businesses and marketers **(Arnott, 2013)**. Web experiences affect consumers' mental processes and improve their online purchasing decisions **(Cetina, Cristiana and Radulescu, 2012)**. Internet is the most influential instrument for business **(Yannopoulos, 2011)**. Marketers who fail to capitalize on the importance of the internet in their business marketing strategies will be at a disadvantage as the internet changes branding, pricing, distribution and promotion strategies.

3. OBJECTIVES OF THE STUDY

After having a clear understanding about the problem area and from the existing literatures relating to the study, following objectives have been identified for successful completion of the study:

- To study different marketing strategies adopted by renowned companies during Covid-19.
- To study digital marketing strategies and creative marketing strategies adopted during Covid-19.

4. RESEARCH METHODOLOGY

Exploratory research is designed to allow the investigator to essentially look at some phenomenon with the aim of developing suggestive ideas (Reynolds, 1971). This research is exploratory and includes both quantitative and qualitative analysis. For the purpose of this study (critical review), data were collected across India. Secondary data and information have been extensively analysed to prepare this document. Secondary data and information were collected from various scholars and researchers, published e-books, articles published in various journals, magazines, conference proceedings, working papers, company websites for annual reports and CSR activity reports and their internal newsletters. We use company-related data and information that is publicly available on company websites. This is a best practice or standard for critical research.

5. MAJOR FINDINGS

Marketing Strategies during Covid-19

There is an opportunity for marketers to understand the changes found in consumer behaviour. To survive this economic slowdown, marketing tools must be innovation, resilience, empathy, and agility. This changing era makes the role of marketers very crucial not to see consumers as a group but can be seen as individuals. Many marketers have provided insight into which marketing strategies to follow during Covid-19. He studied various marketing strategies from several international companies, (1) Nike chose to turn its consumer athletic aspirations into a life-saving call to action with a new ad that warns: "If you've ever dreamed of playing for millions around the world, now's your chance. : play inside, play for the world", to reinforce people's need to stay at home. (2) Brazilian fast food chain McDonald's decided to redesign the iconic arch that forms the brand logo, separating the two sides of the "M" of the brand logo to signify social distancing. The author also talks about how they can help brands during the Covid-19 crisis? - (a) Educate consumers Unilever's Dove brand posted a video on social media outlining proper handwashing techniques to help stem the tide of the virus as its parent company announced $100 million in product donations, including 200,000 face masks at New York Hospital to help protect health workers. (b) Shifting factories from consumer goods to products needed to combat the crisis P&G uses its factories to make masks and hand sanitizer, while Ford and GE Healthcare collaborate to make respirators and ventilators to help Covid-19 patients and support the supply of overwhelmed people in the hospital system. (c) Offer free or discounted products Marriott and Hilton's "Hotels for Hope" program offers healthcare workers free hotel rooms located near medical facilities, while Dan Simmons donates 100,000 beds to hospitals as they work hard to increase the number of beds ICU during an increase in cases.

General Marketing Strategies during Covid-19

The author suggests three marketing strategies during Covid-19, namely "Listen to changes in consumer feelings and behaviour", "Anticipate operational impacts" and "Adjust your marketing plan".

Five ways to do smart responsible marketing are explained during Covid-19, the first way is "Timeliness of campaign content and marketing programs" - the author explains two points in this first marketing strategy, namely (a) decide what to pause immediately (b) decide what to be privatized or rotated.

The second way to do smart marketing is "Evaluate your images and language" - the author has focused on three points in this strategy, namely (a) avoiding crowd images or making eye contact (b) reformulating marketing language that describes close interaction and (c) exchange pictures.

The third way is "Don't take advantage of the crisis" - the author has focused on four points in this strategy: (a) telling people (b) not to be alarmists (c) avoiding bragging and (d) paying attention to the tone.

The fourth way is "Be positive but not stupid" - the author has focused on four points in this strategy, for example (a) look at your Brand Heart as a guide (b) be kind (c) think about your future message and (d) create content made by employees. The last way to do smart marketing is "Highlight how your brand can help" – the author discussed the two points under this strategy i.e. (a) communicate your benefits (b) create helpful content. Brands must strive to be authentic, accountable, and audacious in their communications. They should lead where they can and work together with NGOs and governments, recognizing that they have the capacity to jointly enact solutions. They have explained how to change marketing strategies during Covid-19, the strategies are; (a) Adapt your services to be compatible with remote working environments (b) Consider ways to reduce or eliminate unnecessary fees or registration costs for new customers (c) Utilize virtual solutions for any services that do not require in person contacts.

Digital Marketing Strategies during Covid-19

- The researchers have covered six digital marketing strategies during Covid-19 which are discussed as follows:
  - Update your Google My Business
  - Focus on customer service and reputation management
  - Answer questions frequently
  - Be prepared to target your budget
  - Create Google ad campaigns and
  - Use social media.
- Focus on four marketing strategies during Covid-19 which are discussed as follows:
  - Digital Campaign Focus
  - Update Goggle My Business Listing
  - Don't Stop Posting on social media and
  - Be careful what you share.

Covid-19 has impacted on consumer behaviour and performance of PPC (Pay Per Click), many marketers are limiting or suspending their marketing efforts, the author advises marketers to follow digital marketing strategies such as online bidding strategies, using Google Trends, Google Ad Words and Google Search Query Analytics. the author explains how to adopt PR and Marketing during Covid-19, he also suggests various strategies such as working from home if possible, maintaining relevance to the public, stopping all non-essential press releases and launches, working on projects in the background, focus on online services, build media your social network, optimize your digital space, and find ways to help you.

They provide seven tips for business marketing strategies during Covid-19, there are:

- Do not panic. Invest your time and effort in planning a strategy to ensure the continuity of your business.
- Make sure you take the precautions and safety recommended by our local authorities, such as improving cleaning procedures and educating your team.
- Be honest with the situation and tell your fans and customers about your measurements and the company's new strategy against Covid-19.
- Rethink a new business strategy, if you are a restaurant, think about delivery, or find another service you can offer.
- Keep in touch with your fans on social media. End and provide as much tip, support as possible to your local community, even when your doors are shortly closed to the public.
- Follow your local authority advice and new rules to help as much as possible on the situation.

- Be positive as it will pass eventually and show your clients you support them in this situation as well as after.

6. CONCLUSION

Companies continue to stand out and position their company over their product. In these difficult times, it has become imperative to put consumers in a mental comfort zone and companies do the same. The following shows the marketing strategy in a nutshell. Companies are behaving in a socially responsible manner and educating on how to behave in this pandemic; some companies stimulate consumer sentiment and bring it into the comfort zone. Digital media promotion is not new to the business and consumer community, but back then it was a matter of choice and now, as a result company are doing convenient marketing by enabling them to behave digitally even in certain ways. price. Working collaboratively is always better than working with someone, especially when the collaborative party is the government.

Creativity in marketing is always desirable and sometimes even essential. Companies make creative efforts in running their advertising campaigns. In conclusion, the author visualizes that this strategy is preparing for the post-pandemic era. Businesses, which are present with consumers during the pandemic, must have an edge over consumers and have a distinct place in consumers' minds over their competitive businesses. Therefore, these strategies become a double-edged sword, survival in the pandemic era and post-pandemic growth mechanisms.

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ARTIFICIAL INTELLIGENCE (AI) CONTROLLED WIRELESS BODY AREA NETWORKS: CHALLENGES AND DIRECTIONS

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ABSTRACT

The significant growth of Internet applications in recent years has presented many challenges to the network. One of the important applications is Smart and Connected Health (SCH), which uses sensing, communication networks and artificial intelligence (AI) technologies to provide healthcare to users. In SCH applications, WBAN consisting of groups of lightweight and wearable devices designed for use within proximity of the human body are a key infrastructure. Here, we discuss the possibility of discovering AI-WBAN techniques to improve network performance and increase in health services. In addition, we present literature Review of AI powered networks for SCH, its challenges and future directions.

Keywords: Smart & Connected Health, AI, Wireless Body Area Network.

1. INTRODUCTION

Recently, we are moving to the era of artificial intelligence (AI). There are more and more applications such as autonomous driving, smart home and Smart and Connected Health (SCH), which are enabled by AI. Specifically, SCH uses sensing, communication networks and AI to enable ubiquitous health services. Wireless body area network is a key component of SCH and thus its performance is critical to support stable and secure health services. However, the implementation of AI in network design, services and operations is still at a very early stage. The network traffic generated by these SCH applications is routed across the network and they have different Quality of Service (QoS) requirements. To resolve with these requirements, networks must become more Intelligent, agile, flexible and programmable in the future. With the advancement of Artificial Intelligence (AI) technology, there is a tendency to use AI as a powerful tool to analyse network traffic and therefore find better strategies for managing WBAN resources. We believe that in future the WBAN must accommodate intelligence to deal with the complexity and dynamics of networks.

2. CHALLENGES AND DIRECTIONS

In recent years, network technologies have evolved very rapidly from first generation (1G) to fifth generation (5G) cellular networks. Research communities have already begun to discuss 6G networks with more intelligence that could be incorporated. However, more and more network applications such as Smart and Connected Health pose new challenges to the network or new requirements for the network. On one hand, some of the old challenges for the network still remain. On the other hand, some new requirements were introduced by the emerging SCH applications. There is more and more traffic on the network, which requires that the network of the future should have certain capabilities: Self-configuration, self-adaptation, self-healing and self-protection. There are some new emerging related technologies such as SDN (Software Defined Network) [1] and rapid adoption of NFV (Network Function Vitalization) [2].

Network automation is a potential solution to meet the challenges for future networks. In addition, the network must have the ability to realize self-adaptation. For example, network usage should be maximized and all network resources should be fully utilized. In addition, network operations should be simplified and the network should be easy for users to operate. We believe that some network challenges can potentially be tackled with AI. One of the research directions is AI Assisted Wireless Communication. There are several research motivations for this research. The first is to make network management more intelligent and distributed; the second is to optimize network resource, and thus better wireless resource allocation; finally, the network environment can have a significant impact on network performance. In-depth knowledge of the environment can help us improve network performance. Therefore, AI assisted wireless requires multiple tasks: network management, resource optimization, and in-depth knowledge exploration in the context environment.

3. AI-DRIVEN WIRELESS BODY AREA NETWORKS

A wireless body area network consists of a set of devices Designed for use within close proximity of the human body. These devices are lightweight, wearable, with low power requirements, and use wireless communication capabilities such as BLE, and ZigBee. WBAN devices may include a number of wearable sensors such as thermistor sensors, SPO2 and glucose sensors. There are several challenges with body area networks: Complexity radio propagation in the body area; limited resources and low power requirements; Effect of the context environment on the body area network. In our study, we used channel and observed the relationship between Topology dynamics and body activities as reported in [3]. It is clear that the channel variation is larger when the body's activity becomes more intense. The body area network has a multi-level network structure. But why is AI needed in this application? This is due to our observation that network performance is significantly affected by human body movements. We found that the variation of the RSSI (radio signal strength indicator) changes dynamically when a person is walking, running and jogging. This information can be very useful for us to configure the network and optimize, which also motivates the research on WBAN based on machine learning by collecting human body information and learning to optimize the network performance. There are other applications of AI for wireless body area networks. For example, AI methods can be used for node localization, sensor fusion, routing and clustering, scheduling, security, QoS, and dynamic spectrum access.

We discussed them one by one below. (1) Node Localization: In WBAN, node location information is important to trace and record the location of events or to route packets in the desired direction. Genetic Algorithm (GA) and Swarm Intelligence (SI) based AI techniques are useful for node localization. (2) Sensor Fusion: Sensor fusion is the process of aggregating the data received from multiple sensor nodes. This aggregation process can take place on a hub, server, or cloud, depending on the type of network infrastructure. Several sensor fusion schemes based on GA, Fuzzy Logic (FL), Re-enforcement Learning (RL), and Artificial Neural Networks (ANN) AI techniques have been used for wireless sensor networks (WSNs) [4]. (3) Routing and Clustering: Routing is the process of determining a connected path between the desired source to the destination node to deliver the message.

Normally, on the first layer, the sensor nodes form a star topology with the center hub, thus the hub to node connection is single hop. However, the routing table requires more memory as the number of sensor nodes increases. At the second layer, a server can be connected with multiple WBANs, thus the server to node connection is 2-hop. At the third layer, multiple servers connect to cloud servers. Furthermore, a WBAN can move from one server to another and thus the participation of dynamics makes routing more complex and computationally expensive in terms of computation speed and memory size. Some AI based algorithms for Wireless Sensor Networks (WSNs) are discussed in [5], [6].

AI based routing algorithms are mainly based on EA (Evolutionary Algorithm), RL, SI, ANN and Fuzzy Logic. (4): Scheduling: To receive and transmit data, the sensor node periodically switches between active and sleep modes to save energy. Scheduling algorithms [7] schedule the active and sleeping times of sensor nodes to make a trade-off between service quality and sensor battery lifetime. Also, the scheduling mechanism on the cloud server end can be more complicated considering WBANs service. (5) Dynamic Spectrum Access: In CR based WBAN, the hub acts as the Cognition Engine (CE). It does spectrum sensing and shares resources with co-existence networks. The CE collects information about the operating environment, Radio capabilities and features. Then makes decisions, changes the operating parameters of the radio based on the information gathered and learns the effect of these actions on the radio's performance. Some ANN based techniques have evolved into spectrum sensing and dynamic spectrum access [4] [8]. Some AI techniques, including artificial neural networks (ANNs), metaheuristic algorithms, hidden Markov models (HMMs), rule-based systems, ontology-based systems (OBS), and case-based systems (CBS), can be used in CE implementations. However, depending on the network architecture, cognition decision and learning can be done on the hub or on the server.

4. CONCLUSION

In this short paper, we briefly reviewed the related literature AI powered WBAN for smart and connected health and some research challenges and potential research discussed Instructions. However, the development of AI powered networks Health still has a long way to go. Related challenges are not only from AI and its applications, but also from future network architecture design. In addition, more advanced learning algorithms will be used further analyzes data streams from WBAN thus more efficiently guiding network design and deployment in the future.

The development of AI powered WBAN for healthcare applications will also be fuelled by future 5G/6G networks. We believe that 6G networks will accommodate more advanced AI technologies in network management and resource allocation, thus optimizing network performance to enable greater healthcare applications.

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DATABASE SECURITY AND PRIVACY IN FOG COMPUTING

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ABSTRACT

Fog computing aims to get the Cloud closer to IoT devices to solve cloud computing problems when processing IoT data. It is a layer that sits between the Cloud and the computers. In addition to those inherited from cloud computing, Fog computing, like cloud computing, faces new security and privacy problems, but with specific differences. In this study, we have briefly discussed these challenges and the corresponding solutions. This study shall help for improving privacy and security in the Fog computing database.

Keywords: Fog, Fog Computing, Fog Networking, Security, Privacy, Privacy Threats, Security Threats.

1. INTRODUCTION

CISCO recently announced its Fog computing vision, which allows applications to run at the network's edge (Ivan Stojmenovic, 2015) on billions of connected devices. Customers may use the Cisco system of networked devices, including switches and robust routers to design, manage, and operate software applications. Cisco combines the Linux operating system (OS) and the network OS into a single networked unit.

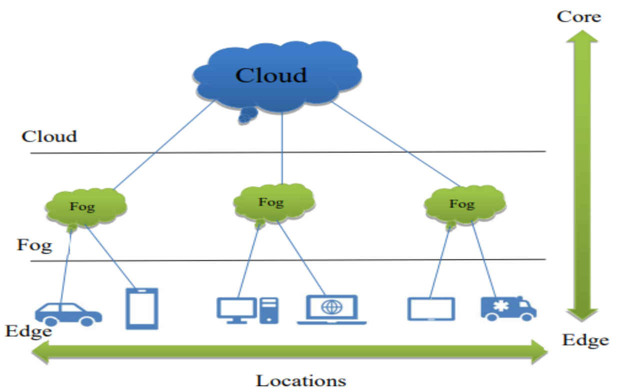

Figure 1: A basic three-level hierarchy. It also shows that Fog computing is the intermediate layer of Cloud computing and Edge computing.

As seen in the above diagram, there is a basic three-level hierarchy. Every smart thing is linked to one of the Fog nodes in this system. Fog nodes can be connected, and (Mithun Mukherjee, 2017) each one is connected to the Cloud. Fog computing is a type of distributed computing model in which (Mamata Rath, 2018) data (Chandrasekaran, 2013) is recorded and processed in a cloud platform between the origin of the source and the cloud platforms. As a result, data processing overheads are reduced, and computational capacity in Cloud systems is improved due to the reduced need to store and process vast quantities of unnecessary information and data. The Fog system concept is primarily inspired by an ever-increasing number of "Internet of Things (IoT)" devices, which produce an ever-increasing number of data (in terms of variety, volume, and velocity (Sagiroglu & Sinanc, 2013)) from an ever-increasing number of devices.

2. REVIEW PROCEDURE

Cisco's Fog model can be interpreted as a (Sagiroglu & Sinanc, 2013) catalyst for a wide range of emerging technologies when analyzed effectively and integratively. It may involve, distribute, and affect many additional features and functionalities such as real-time detection, system interoperability, improved reaction time, low bandwidth usage, centralized or machine-to-machine management, system abstraction, adequate energy consumption, and so on. Fog computing and other similar techniques are now being used to improve Cloud systems' usability and potential (Satyanarayanan, 2015). The Fog and related systems as Micro-data centers, Edge computing, and Cloud computing are vulnerable to cyber-attacks that jeopardize "confidentiality, integrity, and availability (CIA)" (Dimitrios Zissis, 2012) because of their broad applicability. Other researchers, such as (Stojmenovic, 2014) (Ashkan Yousefpour, 2019), have listed twelve critical security problems, according to the Cloud Security Alliance (Seattle, 2017). These problems have a significant effect on cloud computing's distributed, cooperative, and on-demand nature. The fog system can be affected by the same risks as Cloud because it is a virtualized environment (see Fig. 2).

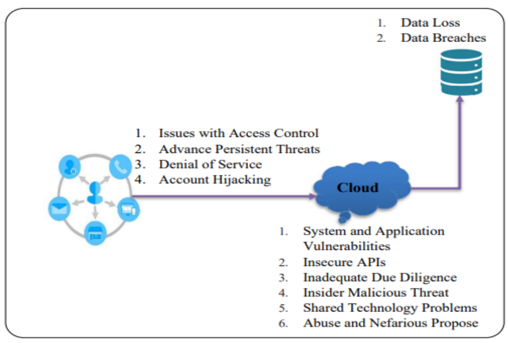

Figure 2

Cloud computing has brought with it a number of security concerns, which the Fog Platform may have inherited. This diagram illustrates how virtualization and other Cloud platform issues can have an impact on the Fog platform as well.

Our research considers the 12 security categories listed below to form a systematic analysis:

- **Issues with Access Control (IAC)** may lead to poor management results, which allow any unauthorized person to obtain data, as well as computer software installation permissions and settings.
- **APTs (Advanced Persistent Threats)** are cyber-attacks that attempt to compromise a business's infrastructure to steal intellectual property and data.
- **Denial of Service (DoS)** is discouraged from using a device (applications and data) by overloading the finite resources of the device (Mahmood Z., 2018).
- **Account Hijacking (AH)** is a form of cyber-attack that attempts to control a user's account to harm others.
- **Data Loss (DL)** always not occurs by a cyber-attack. It may result from a natural disaster.
- **Data Breaches (DB)** is an intruder release or steals sensitive, secure or confidential data.
- **Application and System Vulnerabilities (ASV)** are vulnerabilities that can be exploited that arise from software or configuration failures that an intruder can use to enter and jeopardize the system.
- **Insecure APIs (IA)** is provided by several Fog/Cloud providers. The stability of these APIs is a key in the security of some programs or other software applications that we are using them.
- **Inadequate Due Diligence (IDD)** When a company rushes through the planning, adoption, and execution of a system.
- **Insider Malicious Threat (IMT)** is such a type of user who has been granted permission to access the device and network but has chosen to behave maliciously.
- **Shared Technology Problems (STPs)** arise when infrastructures, platforms, or software are shared. The components of the underlying hardware, for example, may not have been configured to provide strong isolation.
- **Abuse and Nefarious Propose (ANP)** occurs when tools are freely accessible and malicious users use them to carry out the negative operation.
- Security-Related Issues

Table 1 displays the connection between the measured Fog applications and the security problem categories. The segment "Review technique" contains an overview of each group. While the table was created by analyzing published literature, it should be noted that the writers are not even allowed to have shared details about their application that reduce the risk of a security breach in some instances. According to the table, no one of the studied application fields that have been taken the requisite measures to reduce the possible effects and risk of every security threat category.

TABLE 1- Application-specific knowledge gaps based on an analysis of existing Fog installations against all the 12 security-related problem categories are as follows.

Areas of Applications	IAC	APTs	DoS	AH	DL	DB	ASV	IA	IDD	IMT	STPs	ANP
Radio access through virtualization	Yes	Yes		Yes		Yes	Yes			Yes	Yes	Yes
Web optimization				Yes	Yes			Yes				
5G mobile networks					Yes	Yes				Yes	Yes	Yes
Smart Meters	Yes				Yes					Yes		
Healthcare systems	Yes		Yes	Yes		Yes	Yes	Yes		Yes		
Surveillance video processing		Yes				Yes			Yes			
Road safety and Vehicular networks			Yes			Yes					Yes	
Food traceability				Yes	Yes		Yes					
Speech data					Yes					Yes		
Computerized Brain Augmentation	Yes	Yes				Yes			Yes			
Managing resources	Yes		Yes	Yes					Yes	Yes	Yes	Yes
Energy reduction					Yes	Yes						
Response to disasters and a hostile climate	Yes		Yes						Yes			

Table 2 summarizes the security controls relevant to each application region. This table illustrates the possible effect of the CIA model on Fog platforms. Security procedures in fog platforms are rapidly evolving, and some existing publications lack adequate information to provide a detailed assessment. Consequently, some of the blank spots are theoretical and futuristic and focused on existing studies. It is worth mentioning that, due to the ever-increasing number of vectors of attack, this is not an extensive list, and some security problems might have been overlooked. New protection problems will need to be identified and accepted as Fog infrastructure growth progresses.

TABLE 2: A list of possible security vulnerabilities discovered in Fog computing applications.

Class of attack	Threats that could exist	Possible solutions	Their impact
Issues with web security	Injection of SQL Site-to-site scripting Forgery of cross site requests Hijacking of a session or an account Direct object references that are	Safe code Find and repair security bugs Update the apps daily Auditing regularly A firewall is a system that protects an Intrusion Prevention Scheme (IPS) with anti-virus security.	As a result of revealing confidential information, an intruder will become a legitimate member of the network, allowing

	insecure Redirections of malicious intent Drive-by killings		malicious applications to be enabled.
Issues with virtualization	Attacks on hypervisors Attacks on virtual machines Logical Segregation is either lacking or non-existent Attacks on the side channels Escalation of Rights Abuse of the service Attacks on privilege escalation Ineffective resource policies	Intrusion Detection with Multi-factor authentication Isolation of device usage data Encryption based on attributes or identities Permissions depending on the user Process isolation model	All Fog facilities, data, and users are run in a virtual environment, and any agreement will be detrimental.
Issues with internal or external communication	Assault by a MITM attack Laws and procedures that are unsuccessful Inadequate access protection Hijacking of a session or an account APIs and facilities that are not safe Vulnerabilities in software Failure at a single stage	Encrypted communication Authentication of several factors (mutual/multifactor) Encryption that is just partially encrypted Isolating infected nodes pinning the certificate The number of Transport Layer Security (TLS) connections is limited	Eavesdropping helps an intruder to obtain confidential information and gain access to unauthorized Fog services.

Issues with wireless security	Impersonation that is involved Replay assaults on messages Issues with message distortion Loss of data Breach of confidential details Attacks by sniffing Illegal exploitation of natural resources	Encrypted verification Communication Service for key management Routes that are safe for a personal network Protocols for wireless authentication	Wireless access points that are vulnerable can cause many problems like continuity, availability, precision, and trust worthiness
Issues with data security	Replication and exchange of data Attacks on data tampering and erasure Unauthorized data access Problems with data ownership Attack tolerance is poor Insiders with a vengeance issue with multi tenancy Attacks that cause a denial of service	Enforcing policies Protection is integrated into the architecture The use of encryption Key management that is secure Difficulty Masking of data Classification of data Monitoring of the network	A fair chance that an intruder could gain unauthorized access to files and databases compromises both the user's and the Fog system's data.
Protection with Malware	Virus Ransom-ware Trojans Root-kits Worms Spyware Performance reduction	Anti-malware software Data backups that are meticulous Intrusion Detection System (IDS) Vulnerabilities must be tackled Restore points	Malware infected nodes can slow down the entire Fog network, allow backdoors into the system, permanentl

		for the system	y corrupt or damage data (Afroj Alam, 2020), and allow the system to have backdoors.

3. EXISTING FOG COMPUTING SECURITY SOLUTIONS

As mentioned in the preceding parts, the implementation of Fog system features between Cloud mode and end-users introduces a new type of vulnerability that can theoretically be used for malicious purposes. In contrast to cloud computing, there are no industry-wide protection certifications or measures specified for the Fog model. Furthermore, a Fog platform could be listed:

- Due to their existence has limited computational resources, making it tough to implement a comprehensive set of security solutions capable of detecting and preventing advanced, targeted, and distributed attacks.
- Due to a huge amount of data throughput and the possibility of obtaining confidential data from the Cloud and (Munir, 2019) IoT computers, it is an enticing aim for cybercriminals.
- In contrast to Cloud systems, it is more available, based on the exact location and the configuration of the network and precise place, which raises the possibility of an attack.

Fog computing and related technologies have real-world applications, such as analyzed in the section "Related work - current fog applications," primarily driven by features. Even so, it has been discovered that in the vast majority of situations, future security checks that could be introduced to prevent threats are overlooked. One explanation for this may be that the security problems that Fog systems face are still in the early stages of study, with only a few bit options to detect and avoid malicious activity on Fog computing. A summary of such systems can be found in the above tables.

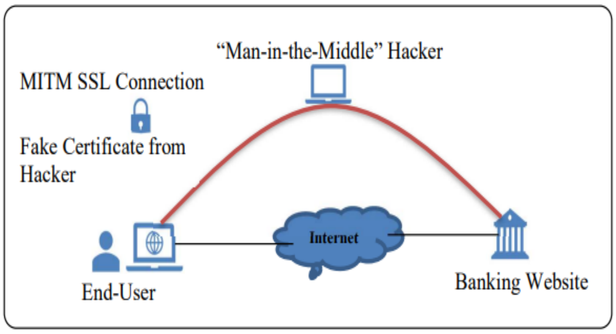

Figure 3: MITM Insecure SSL Connection which shows that a hacker in the middle of the end-user and bank website

4. PRIVACY

Preserving in Fog Computing Privacy problems in smart grids revolve around concealing data, such as which appliance was used to allow detailed overview information for accurate charging (Ivan Stojmenovic, 2015).

The following steps summarize the (Jain R., 2020) research in sensor-fog networks to maintain privacy (Jing Liu, 2020) to stable data from sensors transmission between the end-user and the fog network (Afroj Alam, 2020) system:

- They gather data from features and sensors to be extracted
- Data fuzzing is the method of injecting data with Gaussian noise at a specific number of variances to decrease the probability of sniffing attacks and eavesdropping
- Data is broken down into blocks and shuffled to avoid MITM attacks **(see Fig. 3)**
- Putting in place Public Key System to encrypt and data block
- Send separated data to the Fog server, where it is decoded and reordered.

To further minimize risk, the device requires a functionality reduction and capability for reducing data contact with Fog nodes. This work is essential because it focuses on the preservation of personal and sensitive data during transmission. By choosing an algorithm for encrypting and managing keys, the methodology can be enhanced, focusing on those who play a crucial role in data privacy. Furthermore, a few discussions of the computation overheads needed to perform comprehensive data manipulation (fuzzing, decryption, encryption, reordering, ordering, and Segregation) before and after contact. This may be significant when manufacturing and designing a Fog computing model because the required calculations have a chance that overheads will not be available. A different vital point to note here is that sensors continuously transmit data, potentially for extended periods. The privacy mechanism might cause the underlying Fog system model to become overloaded or even crash.

TABLE 3: Security solutions that are recommended and their impacts based on the CIA model.

Category	Solutions	Impacts based on CIA model
Protecting against cache attacks	Vulnerabilities in services and applications Insecure API Sniffing attacks Sensitive data leakage	When a Fog system acts as a cache server, the most requested (sensitive and relevant) information and data by users or other devices through Fog remains private (Mahmood Z., 2018).
Data Encryption	Data Breach Malicious insiders	Encryption can maintain the original secret data from unauthorized

Category	Solutions	Impacts based on CIA model
	Due Diligence is Insufficient Data Loss Malicious processes or Spyware	recipients if (Mahmood Z., 2018) data is compromised at processing, rest, or motion.
Malware protection	Vulnerabilities in API services and applications Account Hijacking Shared Technology Issues Damage risks or Data corruption Performance degradation	Static analysis allows for real time testing and detection. It removes suspected malicious applications, while dynamic analysis protects from zero day vulnerabilities through intelligent behaviour /event monitoring and ensures that the Fog system consistently performs.
Network monitoring	Access control issues Advance Persistent Threats Insufficient Due Diligence DoS attack Malicious Insiders Data Breaches Misuse of resources and nefarious activities Attack detection	Can alert users to a log of malicious incidents for review, a persistent attack, block suspected network traffic inbound and outbound, and indicate or determine the system's overall performance.
Wireless security	Access control issues Advance Persistent Threats Eavesdropping attacks Data breach Unauthorized use of bandwidth	Fog nodes will improve their flexibility safely, allowing raising the number of IoT devices that can communicate from anywhere while also lowering the Fog network's cost.
Secure multi-tenancy	Account Hijacking Issues with access control Insecure APIs Segregation Issues Misuse of resources and nefarious	Safe collaboration on data among authorized users improved Fog resource use and allocation and shielded each user's room from memory hopping or escaping attacks.

Category	Solutions	Impacts based on CIA model
	activities Malicious Insiders Data Breaches	
Securing vehicular networks	Access control issues Persistent Threats in Advance DoS attacks Session or Account Hijacking Identity theft protection for users	Maintains the communication of data confidentiality while protecting the location of users and identity data confidential, which increases road safety.
Recovery and backup	Data unavailability issues Data Loss Due Diligence is Insufficient Problems of data integrity Malware infection	The data and its integrity will be accessible to users and the system in the event of a natural disaster, Denial of Service attack, or malware infection.

5. CONCLUSION

This article has explained the (Jain R., 2020) privacy and security problems in the term of fog platform, a modern computing model for (Afroj Alam, 2020) providing flexible services to nearby end-users at the network's edge. The article concludes with a discussion of (Jain R., 2020) how recommended security solutions might avoid, track, and protect from the threats mentioned in Table 2 summarized in Table 3. These security technologies are designed to safeguard the CIA of the whole Fog computing users and their systems. According to the literature, various applications are using fog computing, all of which require a high degree of protection to protect user data for the CIA.

Fog computing could supplant conventional cloud computing as much as possible in the future. Research can be done to reduce latency and bandwidth requirements much more without jeopardizing the system's protection. After setting up the system with all of the specifications, it should operate on its own. This article is meant to serve as a starting point for creating safe data services in fog computing and assisting developers and readers in anticipating security challenges and measures when designing new Fog systems.

6. FUTURE SCOPE

The Fog computing paradigm in the smart grid will be developed further in future research. Using this scenario, it is possible to develop two different models of fog generating devices. When it comes to price and demand updates, Fog devices that are self-contained consult with the Cloud regularly, whereas interconnected Fog devices may consult with one another and form coalitions to provide even greater benefits to users.

Fog-as-a-service (also known as FaaS) is an interesting new field of development in which a Fog service provider constructs a network of interconnected fog nodes that will cover a large service area (McKendrick, 2016), which is a promising new development. Developing innovative apps and services that are difficult to develop on cloud-based and current host-based platforms will, as a result, become possible. Fog based security services, for example, would alleviate many (Mahmood Z., 2018) of the present difficulties in the IoT environment.

In terms of security concerns, there is some potential future work that should be investigated further. For example, avoiding and defending against man-in-the-middle attacks can be difficult. The incorporation of an anti-tampering mechanism into the Fog device would be a promising solution.

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A STUDY OF EXTERNAL AND INTERNAL CORPORATE SOCIAL RESPONSIBILITY PRACTICES OF SUGAR MILLS FUNCTIONING IN RURAL AREAS

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ABSTRACT

In this paper, corporate social responsibility (CSR) is a self-regulatory business model that enables a corporation to be socially accountable to itself, its stakeholders, and the general public. Companies can be aware of their impact on all parts of society, including economic, social, and environmental, by practising external and internal corporate social responsibility. CSR is crucial for protecting goodwill and reputation, fighting attacks, and enhancing business competitiveness, and it is not just another sort of indirect spending.

This article aims to identify the various CSR actions carried out by the selected sugar mills throughout the Covid 19 period, as well as to discuss the advantages and disadvantages of doing so. Personal interviews, published publications, media reports, official websites, and other sources of primary and secondary material were used to compile the study.

Keywords: Internal CSR, External CSR, Impact etc.

1. INTRODUCTION: CORPORATE SOCIAL RESPONSIBILITY

Lutz Preuss (2013) in his study defined CSR as - Corporate social responsibility (CSR) is a mindset – and a set of instruments – by which a corporation recognises and handles duties to a broader group of stakeholders than just the capital providers. CSR is described as "a concept whereby enterprises integrate social and environmental issues in their business operations and in their interactions with their stakeholders on a voluntary basis," according to the Commission of the European Communities (CEC 2001, p. 6).

CSR has evolved into a worldwide phenomenon that is encouraged by national governments, international organisations, and civil society organisations as well as enterprises from all continents. At the same time, it has remained an ambiguous concept that can be interpreted in a variety of ways.

CSR can thus be viewed as (1) a call on businesses to provide welfare services where traditional providers, such as national governments, are unwilling or unable to do so; (2) a regulatory framework that imposes novel demands on businesses, primarily through voluntary commitments and soft rather than hard law; (3) a new management trend that is disseminated by a plethora of consultants, standards organisations, and rating agencies; or even (4) an ideology. In any event, CSR exemplifies a sea change in the government-business relationship, with the latter moving from being a beneficiary of regulation to co-authoring it. Another unexpected trend brought to light by CSR is the growing participation of civil society organisations (CSOs) in regulatory making.

2. REVIEW OF LITERATURE

External CSR refers to social responsibility initiatives that benefit the local community, the environment, and customers ***(Farooq et al 2017, Farooq et al 2014)***. Among these are charity donations in support of humanitarian causes, community development investments, and collaboration with non-governmental organisations ***(Tucker (a) 2009, Sundström and Ahmadi 2019)***. Investments in environmental protection, such as pollution reduction, environmental initiatives, and practises that focus on sustainable development for future generations are all examples of CSR relating to the environment ***(Akremi et al 2018).***

Internal CSR refers to the actions that corporations choose to take to meet employee expectations, actively fulfil and improve organisational fairness regarding employees (such as improving employee health happiness and satisfaction), and ensure employee growth and development ***(Kim et al 2018, Brammer et al 2007, Tucker (b) 2009).*** Internal CSR is strongly linked to psychological and physiological wellness through providing welfare services for employees, and the main notion of CSR is to benefit employees rather than pursue company interests.

Internal CSR entails social responsibility activities for employees, particularly in the areas of safety, health, and well-being, training and engagement in the company, equal opportunity, and work-life balance ***(Vives, A. 2006).*** Internal CSR practises are those that are directly related to an employee's physical and psychological working environment ***(Peterson, D. K. 2004).*** Internal CSR has been defined as "organisations'" efforts, choices, or policies aimed at achieving positive social change and environmental sustainability ***(Aguilera et al 2007).*** Internal CSR has gotten a lot of attention from researchers from all over the world ***(Ismail 2011),*** it has gotten a lot of attention ***(Zu & Song 2008),*** and according to some researchers, It has gained a lot of traction in the previous few years and is now considered to be at its most prevalent ***(Zu & Song 2008). (Sweeney 2007).*** As a result, corporate executives, government officials, and academics are increasingly focused on the concept of "internal corporate social responsibility" ***(Reinhardt et al 2008).***

3. OBJECTIVE OF THE STUDY

This study aims to comprehend the concepts of internal and external CSR, as well as categorise the CSR activities of the chosen sugar mill.

4. RESEARCH METHODOLOGY

This research study is an example of exploratory cum descriptive research, with primary data obtained through personal interviews with top officials of selected sugar mills and secondary data gathered from journals, magazines, papers, and news reports. The research design used for the study is descriptive research design, which is based on the study's objectives. This research methodology was used in order to improve the quality and thoroughness of the study's analysis. A total of 50 employees were chosen at random, and their comments were recorded and tabulated. Email and phone calls were used to collect responses. The organization's name is kept under wraps.

5. RESULTS AND DISCUSSIONS

Internal CSR refers to the actions that corporations choose to take to meet the expectations of employees, actively fulfil and improve organisational fairness regarding employees (such as improving the happiness and satisfaction of employees' health), and ensure work safety and the growth and development of employees, while external CSR refers to social responsibility actions targeted at the local community, natural environment, and consumers.

In their study of two sugar mills, **(Singh and Bajpai, 2021)** discovered that the targeted stakeholders were given adequate consideration when formulating CSR policies and the required course of action. Stakeholders were pleased with the mills since they received the products they wanted.

During COVID-19, the sugar mills were at their most productive, and the CSR activities were determined based on the earnings earned. Organization 1 was concentrating on the fact that in COVID-19, farmers should be earning money and their profit amount should be sufficient to distribute agricultural inputs.

Organization 2 was focusing on the importance of being safe, and their income allowed them to provide masks, sanitizers, and food grains, among other things.

External CSR		**Internal CSR**	
Factors	**Activities Performed**	**Factors**	**Activities Performed**
Natural environment	Plantation of trees Avoiding use of plastic Proper waste management practices	Employees	Proper uniform and equipment Health Check up Proper training arrangements Engaging the employees in various activities
Consumers	Quality product and service Satisfaction Proper fair and transparent treatment Proper price		
Local community	Organizing Medical camps Organizing Blood Donation Camps Employment Opportunities Sanitization of government buildings Promotion of education by offering fellowships		

6. CONCLUSION

In today's world, CSR has expanded to include employees, consumers, stakeholders, and long-term development, often known as corporate citizenship. Human rights, workplace safety, consumer protection, climate protection and environmental stewardship, and sustainable natural resource management are all part of the CSR spectrum. Employee-facing CSR initiatives include providing health and safety measures, safeguarding employee rights, and discouraging workplace discrimination. Internal and external CSR were used to classify the aforementioned areas. According to the findings of this study, sugar mills were the best at handling both internal and external CSR initiatives. Employees were satisfied at work, and the chosen firm was able to touch all aspects of CSR in one way or another.

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AN INTEGRATIVE STUDY ON EFFECT OF HUMAN RESOURCES MANAGEMENT PRACTICES ON PERFORMANCE OF EMPLOYEE IN THE HIGHER EDUCATIONAL INSTITUTIONS

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ABSTRACT
Human Resource is the most crucial asset for any higher educational institutions for achieving competitive advantage. In current scenario, it is very challenging to manage human resources as compared to manage capital or technology. For its effective management, higher educational institutions require effective Human Resource Management (HRM) practices. The study main purpose is to explore the effect of HRM practices including (Performance Appraisal, Training & Development, Compensation & Rewards and Welfare Facilities) on employees' performance. The study concluded that HRM practices (Performance Appraisal, Training & Development, Compensation & Rewards and Welfare Facilities) have a significant and positive effect on performance of employees in the higher educational institutions. In the study qualitative research technique has been used. Secondary data like journals, books, internet sources and thesis has been used for collecting data related to HRM practices and employee performance. The Suggestions and recommendation is provided through this study to the higher educational institutions which supports it to provide a refined working environment and professional well-being of employees.

Keywords: Human Resources Management, Employee performance, Higher Educational Institutions.

1. INTRODUCTION

Human Resource Management (HRM) practices are an organized process that catches the attention of employees as well as motivates employees towards their goal and to promote the effective execution process and the endurance of the organization and its members.

In simple words, every practice that works towards increasing satisfaction, competencies, obligation as well as civilization building can be deemed as a HRM practice. These practices might be in the shape of a procedure, an action, a standard, a rule, a system or a mode of doing something. Those HRM practices are excellent which take part in the process of three C's: Competencies, Commitment, and Culture. The crucial role of human resource management in an organization is to meet strategic objectives by maintaining and attracting employees along with managing them efficiently.

HRM practices would produce better knowledge, inspiration, synergy, and obligation to a firm's employees leading to a supply of continuous competitive advantages for the firm. HRM practices improve inner competency of the firm to cope with present or potential problems faced by many firms. The best practices of HRM additionally encourage the well being of the employees in any organization.

2. DEFINITION OF HRM PRACTICES

Human Resource Management (HRM) can be defined as the practice and policy which is essential for executing the routine tasks in the context of human resource in any organization. Generally, HRM is the strategic step in the direction of the efficient management of employees in a company or an organization such that they can smooth the progress of in their business to achieve a competitive advantage. Aravindakumar (2020) stated that HRM practices improve employees' knowledge, abilities, skills and personality which is directly influences their job performance. It would be directly related for the growth of any educational organization. HRM Practices includes: Human Resource Planning, Recruitment & Selection, Placement & Induction, Training, Performance Appraisal, Potential Appraisal, Career Management, Fringe Benefits, Incentive Facility, Welfare Facility, Health, Safety and Working Environment Policy, Suggestions Scheme, Promotion & Transfer, Leave or Exit Policy.

3. DEFINITION OF EMPLOYEE PERFORMANCE

Employee performance is a continuous process to determine how an employee does their job efficiently and executes their task in positive way. It includes effectiveness, quality and competency of their output. Chienwattanasook, Onputtha & Fugkum (2018) stated that the ability of employees to do their work within the speciffic time period, the numbers of works fixed by the organization and quality of work is called Employee performance. In this context, every employee must finish the work as assigned by the higher authorized persons, or job description within the timeframe.

4. HIGHER EDUCATIONAL INSTITUTIONS

In Indian higher education institutions comprise four types of regular University:

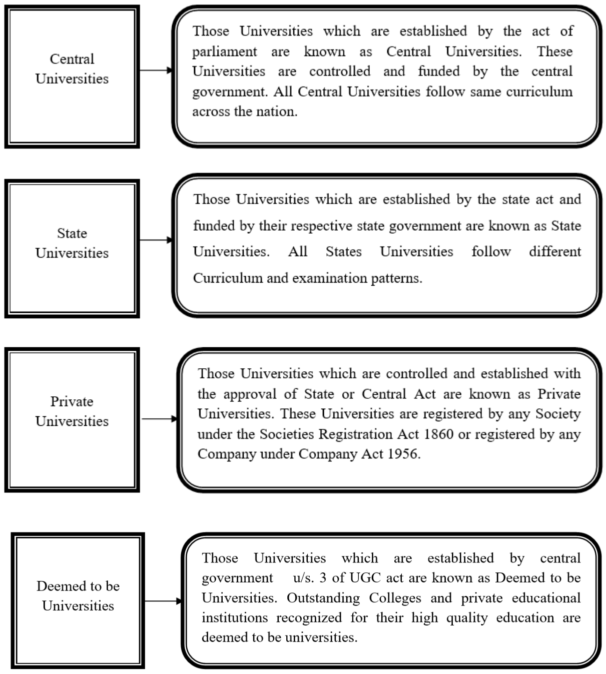

Figure 1: Higher Educational Institutions

Source: Self construct

5. CONCEPTUAL FRAMEWORK

In the study, researcher examined the crucial effect of four HRM practices on employees' performance which is:

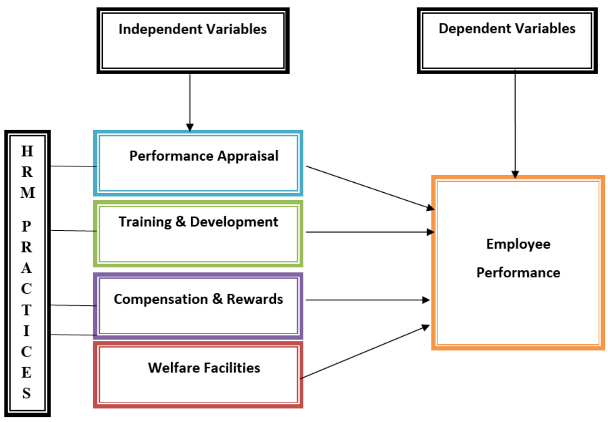

Figure 2: Conceptual Framework

Source: Self construct

6. OBJECTIVES OF THE STUDY

- To study the effect of HRM practices (Performance Appraisal, Training & Development, Compensation & Rewards and Welfare Facilities) on employees' performance in the higher educational institutions
- To offer appropriate suggestions / recommendations to improve the HRM practices (Performance Appraisal, Training & Development, Compensation & Rewards and Welfare Facilities) in the higher educational institutions

7. REVIEW OF LITERATURE

HRM practices and employees' performance

Gordon & Whitchurch (2007) stated that human resources management includes a large variety of practices. They explained hard aspects of HRM practices like recruitment, retention and soft aspects of HRM practices like motivation, work life balance and career development. Faculties (teachers) are the most crucial entity for any educational institution. In a similar study, Boselie (2010) examined that many articles show the correlation between HRM practices on performance of employees and it is a contemporary subject. The systematic development of research on this area proves that more awareness is necessary for micro-level HRM research. Consequently, Narayana (2012) concluded that a positive relationship between performance of the non-academic staff and HRM practices in the organizations. According to him these are the HRM practices which have positive impact on employee's performance – recruitment, selection, high management leadership, decentralization, training, supervisor-subordinate correlation and team-work performance.

Akhter, Siddique & Alam (2013) concluded that HRM practices play an extremely major role for improving staff performance. Researchers have examined that the HRM practices such as training and development, career development have a positive impact on the performance of employees.

Al-Qudah, Osman & Al-Qudah (2014) examined that recruitment, selection and compensation is significantly associated with the performance of employees. HR Manager should follow an appropriate job analysis and job evaluation process for filling the particular position.

Raja & Kumar (2016) found that there are some basic and some external factors which effect on the employees' retention process in any educational organization. Academic employees are always satisfied with their job when they are motivated by some external factors like fringe benefit, insurance benefit and transportation facilities etc in the organization.

Eren & Kurt (2020) studied on need of pre-service teachers' training. They advocate the importance of teachers' training and fill the gap between theoretical knowledge and practical skills of a teacher. In this process the skills and current knowledge of employee are identified and if required then training will be provided.

Khudhair, Rahman, Bin & Adnan (2020) concluded that compensation policy can improve the performance of employees and it makes sure that the employees are loyal, dedicated, and committed towards the organizations. For effective results and productive goal achievements the staff of the institutions should satisfy and happy. Simultaneously, Javed (2020) also found that appropriate level of HRM practices can enhance the employees' job satisfaction level as well as develop their performances in the direction of reaching the goals of the institutions.

Researcher also concluded that effective HRM practices ensure greater performance. Similarly, Blom, Kruyen, Vanderheijden & Vanthiel (2020) studied on HRM practices in context of different sectors and explained the crucial relationships between HRM practices and individual performance. However, Tanjung (2020) described that HRM practices have significant role in any educational institutions. HRM practices should be carried out optimally so that the requirements relating to individual, corporate, organizational or institutional target can be accomplished.

Performance appraisal practices and Employees' performance

A periodic assessment process which examines the employee's job performance which under the set parameters of an organization Setiawati & Ariani (2020) examined that performance appraisal have positive and significant effect on employees' work performance. They found a fair relationship between performance appraisal process and employees' performance. A good performance appraisal process helps to find out weakness and strength of employees which is beneficial for their career development. Suhasini & Koneru (2016) concluded that the organized, significant and continued performance appraisal process/system can guide to better outcomes for the entire employee in the colleges.

Training & Development practices and Employees' performance

A process which is helpful to increases competency, skills and knowledge of employees is called training after training the overall improvement of employees' job performance is called development. Anthoniammal & Tamizharasi (2019) described that training and advancement process in an organization can straight forwardly enhances proficiency and efficiency of workers. However, Paposa & Kumar (2019) studied the impact of training on employees in technical higher educational institutions of Nagpur. They found that there is a positive relationship between training and employees' performance. Training enhances knowledge, skills, competency level and motivation of employees.

Compensation & Rewards practices and Employees' performance

Compensation means guaranteed pay (salary and allowances) and reward means all intangible benefits such as recognition, workplace flexibility and career opportunity.

Kumar & Hegde (2018) measured the role of compensation on performance of employees in any educational institutions and they found that compensation is output and monetary exchanges. It plays significant role on employees' performance.

Welfare facilities and Employees' performance

Welfare facilities includes medical facilities, crèche facilities, insurance facilities, housing facilities and recreation facilities which is helpful in raising the standards of employees' life style. Ahuja, Kaur & Mahendru (2019) concluded that in any educational institutions working environment play positive effect on employees' performance. Welfare facilities like insurance, crèche, and basic amenities like holidays increase employees' motivational level after that employees' performance would be automatically enhance.

8. RESEARCH METHODOLOGY

Qualitative research technique has been used to gain the background information and recent trends on HRM practices in the higher educational institutions. Researcher used secondary data to build knowledge on existing research, which might be leads to better results. Further, secondary data has been used for the present study in order to get a comprehensible picture of the variety of trends and other interrelated concepts. Due to this research methodology researcher might be saves time and money. The secondary data obtained from internal and external available sources like magazines, documentary, books, internet etc.

9. SCOPE OF THE STUDY

Main scope of the study is to see the execution of selected HRM practices on performance of employees in the higher educational institutions. The study might be gives a new direction and proof the crucial role of HRM practices in the higher educational institutions. The study would be beneficial for making different rules and regulations regarding HRM practices for improving their administration work.

10. CONCLUSION

Higher educational institutions cannot survive and perform well without capable and committed academic employees. Hence it is necessary to study the role of various HRM practices on employee performance in higher educational institutions. The study concluded that a significant and positive relationship between HRM practices (Performance Appraisal, Training & Development, Compensation & Rewards and Welfare Facilities) and performance of employees in the higher educational institutions. The study also found that performance appraisal and training & development is continuous and gradually increase employees' skill, competency and knowledge which help to improve employees' performance. However, compensation & rewards and welfare facilities suddenly increase morale, motivation and job satisfaction which tend to encourage performance of employees. It might be possible that the study would give the crucial direction for new higher educational institutions while making new rules and regulation regarding HRM practices. When competent employee works in the higher educational institutions then it might be possible that gross enrolment rate would automatically increases. The study would also play a crucial role on how to retain top talent in the selected higher educational institutions.

11. SUGGESTIONS/ RECOMMENDATIONS

- The proposed HRM practices in higher educational institutions should be positively motivating the employees towards their performance.
- While designing the HRM practices in higher educational institutions, the professional code of ethics should be taught to employees who can be helpful for them to discharge their corporate social responsibilities.
- HRM practices should be designed in systematic and scientific manner through which employees as well as organization get effective growth and development.

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AN ANALYSIS OF COVID-19 IMPACTS ON INDIAN EDUCATION SYSTEM

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ABSTRACT

Indian education system remains not mature at both the urban and country. Midday meal is that the program organized to draw in the scholars to urge education. Under these circumstances government-imposed nation wise lockdown on March 25th, 2020 to combat COVID-19, has made severe impact on the education system. India has the world's second largest establishment, after China. According to UNESCO, 63 million teachers were affected in 165 countries. A total of 1.3 billion learners round the world weren't ready to attend schools or universities, and approximately 320 million learners are affected in India alone. It has changed the normal education system to the tutorial technologies model during which teaching and assessments are conducted online. Both the positive and negative impacts of COVID-19 on Indian Education system are observed. This paper aims to research the Impact of COVID-19 on Indian Education System, that specialize in education during online teaching and assessment of scholars getting online classes during this pandemic from settings at home.

Keywords: Education System, Pandemic, Million Learners.

1. INTRODUCTION

Indian government has announced the lockdown and closure of educational institutions as a logical solution to enforce social distancing within communities. The nationwide lockdown has had an incredible impact on the education system of the country, especially for college kids from rural areas. Since the Indian education system is dominated by classroom study, this scenario has made the functioning of the tutorial institutions go very difficult. All educational activities like examinations, school admissions, entrance tests of varied universities and competitive examinations, others, are being held during this era.

As the days are passing by with no immediate solution to stop this outbreak, the closure of schools and universities is hugely affecting the learning across the country. The structure of the Indian education system i.e., learning methodology, teaching techniques & assessment methodologies, is quite affected, resulting in a shift to online education with most focus on virtual education to accomplish the set aims and objectives. But only a couple of faculties and universities could adopt such methods and therefore the low-income private and government schools are quite inefficient to adopt an equivalent, thus leading to a shutdown.

2. OBJECTIVES

The overall objective of this study is to research the Impact of COVID-19 on Indian Education System. In particular, this study will examine:

- How the Indian education system is facing the Impact of COVID-19, and highlighting the role played by teachers and students through online education
- How the positive impact helpful to student, parents and school teachers in the scenario of the online education
- The way to reduce the negative impact of COVID-19 on students for his or her smooth education.

3. METHODOLOGY

Data and knowledge presented within the study are collected from various reports and articles published by national and international agencies on impact of COVID-19 pandemic. Information is additionally collected from various authentic websites. Some journals also are referred concerning impact of COVID-19 on educational system are referred.

4. PURPOSE OF THE STUDY

All systems have strengths and weaknesses. Maximizing strengths and minimizing weaknesses so as to not miss the chance to maneuver forward should be the goal. The main purpose of the study is to analyze the impact of COVID-19 on the Indian education system. It covers the impact of COVID-19 on rural and urban students, Higher education Institutions.

5. DIGITAL INFRACTURE IN INDIA

Before the COVID-19 lockdown in India, no one estimated that the face of the Indian educational institutions could change so drastically. Schools that never allowed students to hold an electronic gadget became learning centers for online classes. Both teachers and students are becoming familiar to the present new normal, which is certainly tougher for the teachers to handle with this example.

The teachers also face challenges in designing effective lessons and changing of teaching when shifting to online learning; this can also be resolved through workshops and

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training According to the key indicators of Household Social Consumption on Education in India report, based on the 2017-18 NSSO, fewer than 15% of rural Indian households have internet access (as opposed to 42% urban Indian households).

Sr No	State	Rural		Urban	
		Operate Computer (%)	Access Internet (%)	Operate Computer (%)	Access Internet (%)
1	Andhra Pradesh	1.5	10.4	11.6	29.5
2	Assam	3.7	12.1	30.8	46.9
3	Bihar	2.7	12.5	20.0	38.6
4	Chhattisgarh	3.2	10.6	22.0	34.6
5	Delhi	NA	NA	34.7	55.8
6	Gujarat	4.4	21.1	20.1	49.1
7	Haryana	5.9	37.1	29.5	55.5
8	Himachal Pradesh	10.5	48.6	28.3	70.6
9	Jammu & Kashmir	3.5	28.7	16.0	57.7
10	Jharkhand	1.3	11.9	15.6	40.2
11	Karnataka	2.0	8.3	22.9	33.5
12	Kerala	20.1	46.9	27.5	56.4
13	Madhya Pradesh	2.3	9.7	17.2	35.4
14	Maharashtra	3.3	18.5	27.4	52.0
15	Odisha	1.8	5.8	17.2	31.2
16	Punjab	9.4	39.4	26.7	57.1
17	Rajasthan	6.4	18.5	26.6	49.9
18	Tamilnadu	11.6	14.4	24.7	24.8
19	Telangana	1.6	9.9	17.6	41.9
20	Uttarakhand	7.0	35.2	32.5	64.3
21	Uttar Pradesh	4.0	11.6	22.3	41.0
22	West Bengal	3.3	7.9	23.0	36.0

Source: 75th round of National Sample survey conducted between July 2017 and June 2018

Availability of electricity may be a significant challenge to taking advantage of education online. In a recent 2017-18 survey, the Ministry of Rural Development found that only 47% of Indian households receive quite 12 hours of electricity and quite 36% of schools in India operate without electricity. This suggests that while students from families with better means of living can easily bridge the transition to remote learning, students from underprivileged backgrounds are likely to accede to inefficiency and a scarcity of adaptation, either due to the inaccessibility of the technology or the low education of their parents to guide them through tech-savvy applications. Non-availability of technical infrastructure and irregular interrupted internet connectivity all across India is that the biggest challenge ahead of the scholars and teachers.

6. IMPACT ON TEACHERS AND STUDENTS

Both teachers and students are face many hurdles during online education. At home, a scarcity of basic facilities, external distraction and family interruption during teaching were major issues noticed. Educational institution support barriers like the allow purchasing advanced technologies, a scarcity of coaching, a scarcity of technical support and a scarcity of clarity and direction were also noticed. Teachers also faced technical difficulties. The difficulties were grouped under a scarcity of technical support; it included a lack of technical infrastructure, limited awareness of online teaching platforms and security concerns. Teachers' personal problems including a lack of technical knowledge, course integration with technology is damper their engagement in online teaching.

Positive impact on education system:

Though the outbreak of COVID-19 has created many negative impacts on education, educational institutions of India have accepted the challenges and trying their best to supply seamless support services to the students during the pandemic. Indian education system got the chance for transformation from traditional system to a replacement era. The following points could also be considered because the positive impacts.

Develop the use of soft copy of learning material

In lockdown situation, students were not able to collect the hard copies of study materials and hence most of the students used soft copy materials for reference.

Improvement in collaborative work

There's a new replacement collaborative teaching and learning can opportunity where combat new forms.

Rise in online meetings

The pandemic has created a massive rise in teleconferencing, virtual meetings, and webinars and e-conferencing opportunities.

Enhanced digital literacy

The pandemic situation induced people to find out digital technology and resulted in increasing the digital literacy.

Improved the use of electronic media for sharing information

Learning the scholars easily and therefore the related queries are resolved through e-mail, SMS, phone calls and using different social medias like WhatsApp or Facebook.

Worldwide exposure

Educators and learners are getting opportunities to interact with peers from around the world. Learners adapted to an international community.

Better time management

Students are ready to in online education efficiently in online education during pandemics.

Demand for Open and Distance Learning

During the pandemic situation, most of the students preferred Open and Distance Learning mode as it encourages self learning providing opportunities to learn from diverse resources and customized learning as per their needs.

Negative impact on education system:

Indian education system has suffered a lot due to the outbreak of COVID-19. It has created many negative impacts on education and some of them are as pointed below:

Educational activity hampered

Schools are closed and classes have been suspended. Different boards have already postponed the annual examinations and entrance tests across India.

Unpreparedness of teachers and students

Teachers and students weren't unprepared for online education; they were not ready for this sudden transition from face-to-face learning to online learning. Parents' role- In populated area some educated parents are ready to not have the adequate level of education needed guide but some may to show children within the house.

Digital gadgets

Especially in country many students have limited or no internet access and many students might not be ready to afford computer, laptop or supporting mobile phones in their homes, online teaching-learning may create a digital divide among students. The lockdown has hit the poor students very hard in India as most of them are unable to explore online learning consistent with various reports.

Create Difference

This online teaching-learning method creates an enormous rich vs. poor and gap between concrete vs. rural students.

7. OBSERVATION AND RECOMMENDATION

This pandemic has revealed a number of the main loopholes within the Indian education system. The closure of schools has made a severe impact on marginalized students. One of the critical trends which will be followed is that they got to have a combined approach to online learning with increase in investment on the upgrading of the technology infrastructure of educational institutions. Stress must tend to train the teachers. All education institutes now are conscious of the importance of technology and will take serious measures to conduct technology-driven education through the training management system. It is recommended that educational institutions should use technology in all aspects. This pandemic shows the partnership between technology and education goes to remain forever. One more suggestion is that education Institutes can divide the courses into conventional teaching and online teaching, it'll help in inculcating the technology into the school rooms. Online teaching will increase digital literacy among teachers and students which will increase their exposure and learning and making them more employable for the digital world-leading thereby contributing to social sustainability.

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HUMAN RESOURCE: EMPLOYEE'S PERCEPTION TOWARDS HR POLICIES IN INFORMATION TECHNOLOGY (IT) COMPANIES

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ABSTRACT

Human Resources are cognizance, skills, creative abilities, attitude and other attributes obtained from the population on organizations point of view, they represent the entire of the inbuilt abilities, acquired knowledge and skills as exemplified within the talents and attitude of the workers. The policies, strategies and practice lead the corporate to react on its objectives. It should be a cultural reflection of the values and beliefs of the organization. The policies should be very brief and clear in order that everyone within the organization can understand its objective, the steps to achieving the mission. This all is possible if the human resource department of the organization is working effectively. This paper provides clear information about the worker perception towards the HR policies framed by the Organization. This is a conceptual framework supported the previous research papers, journals and various other secondary sources.

Keywords: Human Resource Management Practices, Employee's Perception, IT Companies.

1. INTRODUCTION

HR policy may be a preplanned guideline towards the attainment of Organization goals and objectives. Such guidelines facilitate properly planed efforts towards accomplish the strategic intent. Policy isn't a technique or a tactic. Strategy may be a suggested course of action to exert a far-reaching impact on the power of the enterprise to succeed in its common goal. It is often differentiated from objective and procedures. It is associated with the framework of basic principles which are information for deciding and supply a continuing pattern of selections. Objectives are specific goals and aims, preferably in quantitative terms and may be considered as something which a private, group seeks to end successfully. Hence, an objective is some things to accomplish, while a policy may be a guide to accomplish it easily and effectively.

Again, policy is different from procedure, as procedure defines the way or way of accomplishing goal or something, i.e., it's the method and method. While policy forms part of a framework of general principles, protocol necessarily indicates how to do something and direct and regulate employees towards the accomplishment of goals. Programmes were developed on the idea of policies with a view to workout them and accordingly programmes involve additional step beyond policies to simplify the choices.

The execution of programmes takes to specific actions including practices and procedures. Human Resource Management can help a corporation to realize its goal more efficiently and effectively in various ways. The first and foremost function of HRM is to help the organization in attracting and obtaining the specified talent through effective manpower planning, recruitment and selection, developing the required skills and right attitudes among the workers – To identify if any improvement are required to be made regarding HR policies– to identify the efficiency of existing HR policies–through providing prior training, performance appraisal, evaluation etc. It also involves securing efficient performance from employees through motivation, perks, grievance handling and utilizing effectively the available human resources and then only the enterprise will have in future a team of qualified and dedicated employees. Objectives of the study: To recognize the employee's perception towards HR policies

2. HUMAN RESOURCE MANAGEMENT: SCOPE

The scope of HRM is wide in nature. The Indian Institute of Personnel Management has specified the scope of HRM as:

- **Personnel aspect -** This regards human resource planning, recruitment, selection, placement, transfer, promotion, training– and development, retrenchment, remuneration, incentives, productivity etc.
- **Welfare aspect –** It's related with working environment and amenities like welfare measures such as canteens, crèches, rest– rooms, lunch rooms, housing, transport, medical assistance, education, health and safety.
- **Industrial relations aspect -** This covers union-management relations, negotiation procedures, dispute settlement etc-, Grievance and disciplinary

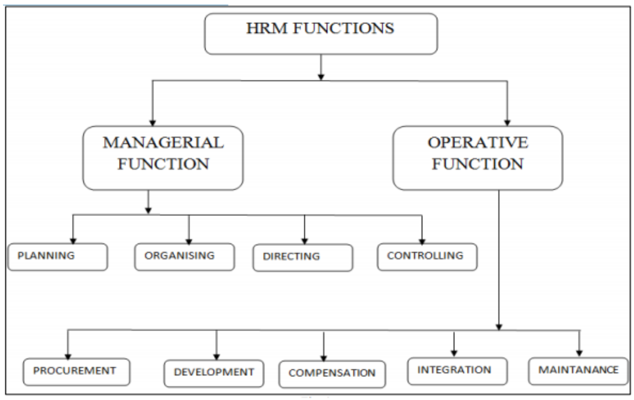
3. HUMAN RESOURCE MANAGEMENT: OBJECTIVES

The basic objectives of Human Resource Management could also be sketched as follows to assist the organization to achieve its goals.

To ensure effective utilization of human resources.

- To make maximum development of human resources.
- To ensure respect for employees.
- To make sure reconciliation of individual goals with the organization goal.
- To get a top quality of labor life for the workers.

4. PICTORIAL REPRESENTATION OF HRM FUNCTIONS



5. LITERATURE REVIEW

Abdul Basit Al-Hamadi, Pawan S. Budhwar and Helen Shipton (2007): provided an summary of management of human resources and therefore the factors influencing an equivalent within the sovereign of Oman. The initial section of the paper built the study of HRM policies within the Omani context. This is carryout with analysis of the background information and specific features of social environment of the sovereign of Oman along side key national initiatives that are likely to influence the take-up and endorsement of HRM in Oman. The research observation in support of key issues associated with management of human resources was presented, and conclusions were drawn by evaluating the significances of the described findings. This is done by considering the present situation in Oman and thru analyzing key challenges are going to be faced within the future. Ashok Som (2008): Indian organizations adopted innovatory changes in their HRM practices. Current research showed that HRM policies are important for enhanced organization performance but little had been reported on the effect of HRM policies and organization performance within the context of economic liberalization of India. The study tried to know the role of innovative HRM policies like the role of HR department, recruitment, retraining and redeployment, performance appraisal and compensation, enhance organization achievement during the change process. A multiple-respondent survey of 69 Indian organizations was undertaken to review the influence of innovative HRM policies on firm performance. The research found that the innovative recruitment and compensation policies have important positive relationship with firm performance. It was observed that recruitment, the role of the HR department and compensation policies to beseem significantly changing within the Indian enterprises within the context of India's economic liberalization. The behavior of system between innovative HRM policies wasn't significant in enhancing organization performance during the liberalization process. Hui-O Yang and Nita Cherry (2008) Contemporary international literature founds three major human resource management (HRM) issues as being critical within the hospitality industry across the planet, both present and in the future. They were service quality, training and development, staff recruitment and staff selection. This study involved interviews with the senior most executives during a sample of chain hotels in Taiwan nominated by the hotels as being liable for HRM. This study explored that the three major HRM issues identified within the study are perceived as important by Taiwanese hoteliers. The conclusion suggests that although most participants perceive these issues a big and challenging, they're concentrated mainly on operational and not in strategic solutions for handling these issues. It is argued that the present and arising challenges facing the industry demand an approach to HRM that's longer in strategic than the normal focus of personnel administration. The implication is that HRM features a key role to play in generating and sustaining competitive advantage in hotels. A particular strength of this study, the info collected through face-to-face interviews, which enabled a more intensive exploration of the thinking of respondents than is usually the case with quantitative surveys.

Ilias Vlachos (2008): This study addressed a central research question: How do human resource management practices assist to organizational performance?

They examined the subsequent HR practices: (1) job security (2) Selective hiring (3) self managed teams and decentralization of deciding (4) compensation policy (5) widespread training and (6) Information sharing. They collected data from food managers in Greece and recorded their perceptions on HR practices and their reference to organization's performance. The conclusion provides overall support for all HR practices except the work security. Selective hiring was found to be a key practice that enhanced organizational performance. Compensation policies, information sharing, decentralization and wide training were significant anticipates for all performance variables. Directions for further research are provided. Irene Hon-fun Poon and Chris Rowley (2010) many competing hypotheses are advanced to relation for human resource management (HRM) change. The present review evaluates the theoretical development and empirical revise in HRM change in Asia within the early twenty-first century (from 2000 to 2006). Three research themes common to HRM change are discussed. (1) Change context is about the problems of forces to form easier or to form difficult HRM change; (2) Change process includes pace, sequence and magnitude of HRM change movement and (3) Change direction is about resultant change outcome. Comparisons of HRM change were made on

Asian economies also as between Asia and other ranges. It is resulted that the interplay between different perspectives can produce a good sort of more complex understanding of change circumstance while cross-sectional approach can add value to elucidate dynamic process and resultant direction.

Peter K. Ross and Lutz Michael Buchner (2010) this text analyze the competition demands faced by Deutsche Telekom for global consistency and native responsiveness because it tried to coordinate its human resource management strategies across its Eastern European supplemental. It considers the degree to which the previous economics and political histories of Eastern Europe still influence and/or pressurizing MNC strategies and policies within the post-2000 era. Institutional path dependency, strategic international human resource management, and international industrial relations theories are wont to substitute ascertain the date. The study countries are rapidly declining, thereby permitting MNC's to implement "Western-style" human resource management strategies. It further proposes that industrial relations institutions at the ecu Union Level, instead of individual country level, have the best ability to impact on international human resource management strategies in the region. Multinational corporations should therefore engage in more-integrated strategies international human resource management and approximate international industrial relations.

6. CONCLUSION

HR policy continues to be in its infancy in India and extra analysis must be undertaken on totally different aspects of inexperienced to explore its potential to the foremost doable extent. Once corporations adopt inexperienced policies, they need to confirm that the economic side of these policies within the extend of failure. Thorough understanding of the implications of varied new policies should be undertaken by the businesses, therefore confirm that they give favors to both the worker and therefore the employer.

The companies should determine that the workers square measure considerably involved regarding the varied problems cropping up within the country which their square measure considerably willing to figure for the company, if the corporate provides good policies and methods. Employees will command a far better worth if they're going to enhance the policy and supply additional facilities by providing cab, higher functions, improved work environment, dynamic pays. Thus, companies should attempt to find these sorts of excellent policies and supply their employees those policies.

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"ROLE OF RURAL WOMEN ENTREPRENEURS IN DEVELOPMENT OF VILLAGE IN MIRZAPUR"

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ABSTRACT

Rural women are the major part of our population and they are the key agent for social, economic and environmental changes needed for sustainable development. Growth of each and every sector is only possible if women are independent and they are socially economically developed. Entrepreneurship is the quality which is naturally built-in women. A rural woman contributes their effort in the development of villages. They improve standard of living, involve themselves in social issues, create self-confidence and generate employment for others. The percentage of women entrepreneurs has increased over a period. Women entrepreneurs should be appreciated for their modern utilization of resources, advanced technology, encouraging other women, and increased investment. Now the government is also trying different schemes to generate income for women. But the government has failed to stop people from moving from city to city. This paper highlights the role of women entrepreneurs and their effort for the development of rural areas. Also focus on the opportunities that are there for women and the challenges faced by women. The nature of the research is both exploratory and descriptive. It is investigative as the research goals to classify the role of women entrepreneurs in development and problem faced. The technique of sampling used Judgmental sampling and interview schedule designed with help of secondary data and respondents' interview and opinion. The primary data collected from rural women entrepreneurs.

Keywords: Women Entrepreneurs, Development, Rural Areas.

1. INTRODUCTION

According to Schumpeterian "women who innovate, imitate or adopt a business activity are called women entrepreneurs"

The Government of India defined Women Entrepreneurs as "An enterprise owned and controlled by women having a minimum financial interest of 51 per cent of the capital and giving at least 51 percent of the employment generated in the enterprise to women."

Rural Women Entrepreneurs "The rural women, who innovate, imitate or adopt an economic and commercial activity in rural areas, can be called as rural entrepreneur or entrepreneurship.

Women entrepreneurs are known as a group of women who start, begin, and run business enterprises. Women entrepreneurs play a vital role in local economies. If we talk about **rural women,** they have primarily responsibility for agricultural production as well as domestic responsibilities and childcare.

Rural women are the backbone of the development of the Indian economy. The rural women contribute 43% of the labor force, which is less in comparison to other countries. It is likely that presently women entrepreneurs consist of about 10 percent of the total entrepreneurs in India and this percentage is increasing every year. If existing trends continue, it can be said in w further years the percentage of women will become 20% of the entrepreneurial force in India.

Rural women entrepreneurs are an effective instrument for social and economic development. There are various NGOs, Banks and SHGs which are working for women. Rural women's contribution in agro-based activities is much more than what statistics reveal.

This is mainly due to the fact that most of the work done by the women at farms and home is unseen as daily tasks. Entrepreneurship is a main key to the growing employment among rural youth. It helps to create employment for a number of people in their own social boundaries. This is more positive for women in rural areas as it enables them to put into the family income while taking care of their family. Rural women hold abundant resources to take up enterprises.

Entrepreneurship development among rural women helps to increase their confidence, personal capabilities, and decision-making status in society as well as family. There are various obstacles in the success of women entrepreneurs like finance, lack of education, legal formalities, mail dominated society etc.

It is maybe for these reasons that Banks, government, NGOs, social scientists, researchers and international agencies have started showing interest in the issues related to entrepreneurship among women in India.

Rural Women Entrepreneurship can be viewed as a rural women indivisible process which flourishes when the inter-linked dimensions of individual psychological – entrepreneurial traits, social encouragement and business opportunities coverage towards the common goal of opportunity creation and exploitation. From this point of view, rural women entrepreneurship is a frame of mind and a continuous forward societal process. This state in which one does not become an entrepreneur or does not act as an entrepreneur by the mere act of starting or owning an enterprise. (R.Sivanesan, 2014)

2. ROLE OF RURAL WOMEN IN DEVELOPMENT

A Study shows that there is no effective development strategy which is possible without women. When women are involved fully in their work, benefits are seen immediately. Families became financially stronger.

S. No.	Benefits Entrepreneurship	Development of society
A	Rise in economic status	Increased standard of life Increased consumption Confidence in sustaining trend
B	Self worth	Finds greater ability to lead Get recognition of work To resolve conflicts
C	Self-confidence and social status	ability to take risk positive image more gender equality

3. REVIEW OF LITERATURE

Bhuvneshwai, 2014 states in her research "A Study on Rural Entrepreneurship in Sivaganga District" is being planned and it deals with problems, functions, needs and how to develop methods in rural entrepreneurship. In this situation researchers focus on identifying the needs of rural entrepreneurship, types of rural entrepreneurship, issues and problems faced by rural entrepreneurship and the elementsencouraging rural entrepreneurship. The author's limitations are very difficult to encourage and motivate rural entrepreneurs and with reduced motivation level, rural entrepreneurs face a lot of problems. Thus, it is mandatory for our government to provide entrepreneurial training to women belonging to rural and urban areas. As far as rural development through rural women entrepreneurship is concerned it will stand as a vehicle to change the quality of life of rural people, sustainable development and growth of economy.

(Sritharm, 2013): The problem faced by women entrepreneurs in rural areas was being measured and stated that the majority of the women entrepreneurs were rated as lacking strong leadership. Their leadership quality was not as good as required for being a successful entrepreneur. There are many women entrepreneurs who face problems related to finance. Second rank was financial insufficiency. The third rank was absence of systematic development, No awareness about Government schemes, No repayment of loan by the participants, Lack of education and other problems.

(Abhinav): The study has been done to develop entrepreneurship in rural areas and the development of villages. Understand the concept and domain of women entrepreneurs in rural areas. The study also examines the rural marketing mix strategies of women entrepreneurs through SHGs

Sharma, August,2017, "Role and importance of rural entrepreneur", in his paper which throws light upon the role and importance of rural entrepreneurship. The study says that you must recognize their efforts to change the direction of movement of people, that is, people bring people to rural areas, but more. It not only means the outflow of rural people, but also migrant cities and cities. This is possible when young people see the countryside as a place of chance. Despite all the shortcomings of rural areas, it is necessary to assess the strength of rural areas and create opportunities in rural areas.

(Mathew, 2009) depicts in his article that the female work force in India was mainly employed in non-managerial, subordinate or low-profile positions. Now, they occupy almost all categories of positions in the workplace. These changes in work culture have added to women's duties and responsibilities to their family as well as to society. Despite this new found work culture, and even though more and more women are joining the workforce, women in entrepreneurial roles are limited. The probable reason for this phenomenon is the conflicts between competing work demands and personal and family needs.

4. PROBLEM STATEMENT

Rural areas entrepreneurs are playing a vital role in the economic growth of underdeveloped countries. Women's skills and knowledge, their talents and abilities in business and a forceful desire of wanting to do something helpful are some of the reasons for the women entrepreneurs to organize industries.

According to the World Bank, investing more in the business of women rather than men leads to better growth of a nation. Empowering women in entrepreneurship leads to breaking the poverty. Entrepreneurship plays a vital role in developing the society of a fast-growing country like India. The government has realized the significance of women entrepreneurship. As a result, it offers a variety of schemes for women entrepreneurs. Rural women face different challenges. Thus, the study aims at seeing the prospects and challenges faced by rural women. Highlight the motivational forces of rural women's and relationship among socio economic background of rural women and challenges, also seeing the major changes after they become entrepreneurs or start doing their own business for survival of their livelihood.

5. OBJECTIVE OF THE STUDY

- To find out the development of rural areas through rural women entrepreneurs
- To explore the problems faced by rural women entrepreneurs

6. SCOPE OF THE STUDY

The study focuses on the rural women entrepreneurs in selected places in Mirzapur district. The villages are located nearby Mirzapur district. The scope of the study sees rural women entrepreneurs in Mirzapur District and the problems faced by rural women entrepreneurs who are engaged in starting a new project in rural areas. The study is limited only to rural women entrepreneurs and it is examined by visiting various financial institutions which are engaged in providing micro finance and by doing surveys in villages.

7. RESEARCH METHODOLOGY

The nature of the research is descriptive. It is investigative as the research goals to classify the role of women entrepreneurs in development and problem faced. Sampling technique used is convenience sampling and the data collected are both primary and secondary. Primary sources of data collection are interview methods in villages by rural women entrepreneurs and secondary data are collected through journals, magazines, newspapers etc.

These five villages are from Mirzapur district. From each village, entrepreneurs are selected. Retail stores, vegetable sellers, Tailors, small eateries and beauticians etc are the samples.

Table1 represents sample size and samples.

Entrepreneurship businesses done by rural women activities and secondly the % of rural women are higher in milk products dairy farming. I have taken a sample of 53 women entrepreneurs and asked the questions.

TABLE 1

Entrepreneurs business	Vill age 1	Vil lag e 2	Villa ge 3	Vill age 4	Vi lla ge 5	To tal sa m ple s of vil lag es
Agriculture related work	4	2	3	3	3	15
Beauticians	1	1	2	1	0	5
Milk products	4	3	3	3	2	15
Pot making	2	1	1	1	2	7
Pickles papad making	1	1	0	0	0	2
Small shops	2	1	0	1	2	6
Total	14	09	09	09	09	50

From the above table we can clearly see that the % of rural women are higher in agro based activities and in sikta village I found most of the women are involved and doing their work related to agriculture

8. FRAME OF ANALYSIS

TABLE 2 : INTERVIEW QUESTIONS

Questions	Characteristi cs	Rural Women Entrepreneurs (N=50)	
		Resp.	%
Age group	Below 20	00	00
	20-30	05	10
	30-40	10	20
	40-50	28	56
	Above 50	07	14
Total		50	100
Marital Status	Married	48	96
	Un-Married	02	04
Total		50	100
Qualification	Up-to HSC	24	48
	Degree	16	32
	PG Degree	10	20
	Professional	00	00
	Others	01	02
Total		50	100
Size of Family	Three	05	10
	Four to Five	15	30
	Six to Seven	23	46
	Eight to Nine	04	08
	Above Nine	03	06
Total		50	100

9. DEMOGRAPHIC PROFILE

The survey is conducted using a Judgmental sampling method and several questions designed. The sampling type descriptive survey data was collected using a standardized interview method. I have used simple percentage analysis.

Income earned	Below Rs.20000	16	32
	Rs.20000 to Rs.40000	21	42
	Rs.40000 to Rs.60000	10	20
	Rs.60000 to Rs.80000	03	06
Total		50	100

The questions asked by entrepreneurs help in rural women finding the the key factor to analyses the problems faced by women entrepreneurs, 48 respondent rural women entrepreneurs (96%) are married and only 2 of them (4 %) are unmarried. Education is another factor to analyses the development of villages through women entrepreneurs. If women are educated then they will understand the aspects of business easily and also they can easily run their business and they will be aware about the schemes and programs that government provide to the rural women entrepreneurs.24 respondent of rural women entrepreneurs (48%) are qualified which is very high % with up-to SC. Size of family is another important development in their lifestyle and the impact of the business in the development of villages. Through the study we can also come across the challenges faced by rural women.

By this researcher analyses Profile/Socio-economic background of the rural women respondent are identified. The questions are asked related to their business and the income generated through the business and the major changes that came into the life of rural women entrepreneurs. From the above table we can clearly see that the % of rural women entrepreneurs are higher in the age group of 40-50 which is 56% Marital Status is factor to analyze the development of villages. We can see from the above analysis that the 46% is the highest percentage which is a slot of six to seven family members so most of the family was having joint family so responsibilities and burden are higher for rural women entrepreneurs. Another important factor is income generated by how much women earn and if they are capable of increasing their standard of life. 42% of rural women are generating income that is 200000 to 400000 which is good.

TABLE-3

S. No.	FACTORS
1	Innovative thinking
2	Self-identity and social status
3	Education and qualification
4	Support of family members
5	Role model to others
6	Success stories of friends and relatives
7	Bright future of their wards
8	Need for additional income
9	Family occupation
10	Self confidence

10. INTERVIEW QUESTIONS

- Initial investment made while starting the enterprise?
- Are you satisfied with the present occupation?
- What are the development factors you noticed through your business?
- Did you have a plan for expansion of your business?
- What are the problems faced by you all running your business?
- What are the factors that have increased the prospects of women entrepreneurship?

11. DEVELOPMENT OF VILLAGES AND IN THE LIFESTYLE OF WOMEN ENTREPRENEURS THROUGH RURAL WOMEN ENTREPRENEURS

11	Freedom to take own decision and be independent
12	Employment generation
13	New challenges and opportunities for self-fulfillment
14	Infrastructure development
15	Health facilities
16	Economy

12. PROBLEMS FACED BY RURAL WOMEN ENTREPRENEURS

- Lack of education
- Conflict between business and household works
- Non availability of finance
- lack of family support
- finding of raw material
- problem of marketing
- lack of managerial skills
- male dominated society

13. RECOMMANDATIONS

- proper knowledge should be provided to the rural areas people about the schemes that are for them.
- The government should develop infrastructure in the villages for the betterment of entrepreneurs and the people
- who are living (industrial plots).
- personality development programs free of cost should be imitated for women.
- Easy availability of money to the women through banks and other lending institutions.

14. CONCLUSION

The role of rural women entrepreneurs are very much in the society. They are the key factor for the development of rural areas. They manage both business and household work through them and other women also gain confidence for doing something. Women are contributing a lot in economic development but also the speed of development is very slow, women not having proper guidelines and knowledge. Women in the villages are engaged in various business and contributing in the benefits of society they are providing employment to other women and also generate income.

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THE INFLUENCE OF GREEN ENTREPRENEURSHIP ON SUSTAINABLE DEVELOPMENT IN INDIA

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ABSTRACT

The Study explores the influence of Green entrepreneurship on sustainable development and the role of entrepreneurship framework in the context of Indian diversity. Green entrepreneurship is can be defined as an activity of continuously addressing an environmental social problem that needs through the realization of entrepreneurial ideas with the high level of risk and reforms, which has a positive effect on the natural environment and at the same time is financially sustainable.Green entrepreneurship is different from an entrepreneurship.A business is an activity of buying and selling green goods and services to make a profit i.e., having an income or revenue that is greater than costs. Entrepreneurs are naturally risk-takers in their business. Green entrepreneurs have high risks in their carrier to implement and innovate their business and make it viable in society both internally and externally. There are many risks in green entrepreneurship like environmental issues, societal issues, Policy framework, Political, Economic constrains etc. Green entrepreneurs should have the ability to dissolve all the difficulties that comefrom society and work tirelessly to overcome that. Green startups seek to influence technology, culture, diversity and feasibility to create eco-friendly products and to encourage social goods and services. A green industry business is one that uses sustainable materials to make its products or services. Green industry businesses aim to utilize as little water, energy, raw materials and other factors of production, as possible while cutting carbon emissions, or it find ways to utilize these materials in renewable and eco-friendly ways.

Keywords: Green Entrepreneurship, Green Industry, Business Startups, Opportunities.

1. INTRODUCTION

A Successful sustainable development meets the needs of the present without compromising those of future generations. The social dimension of sustainability includes factors such as safety, health, ecosystem & social concerns. As a driving force for ecological development, entrepreneurship plays a critical role in shaping domestic industries, systems, and networks. The first attempts to define and analyse the green entrepreneurship and describe its characteristics are in the 1990s. we can define a business, whose core business model addresses an environmental or social issue. It improves energy or resource efficiency, reduces greenhouse gas emissions, decreases waste or pollution, protects or restores ecosystems, promotes local culture, creed or supports various communities and reforms.

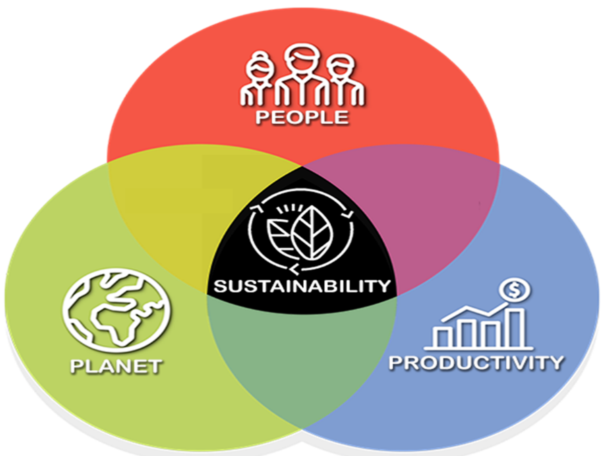
Green entrepreneurs should have the ability to overcome all the discrepancies that come from the society or environment, and uplift the same by the solution and goal orientation. Therefore, in other words green entrepreneurship is a businesses and organisations or startups coming up with solutions that have a worldwide existence and can help save the environment. At the same time, they must make sure that the solutions will not have a negative impact, thataffects the business or culture both internally or externally.

Since last decade the concept Green entrepreneurship is gradually erecting and has caught world's attention in an incredible manner. As it may be the reason, that slowly and steadily the concept of green product and green marketing are emerging a significant position in the market.

This may be an ideal time for those budding entrepreneurs, who want to grab the best opportunities and strength of this developing green market because of following two major reasons:

Firstly, the green environmental market is growing at a rapid growth and momentum, every new entrepreneur, business manager and investor who has had even a brief glance recognizes the market's potential and recognises the opportunities for future growth and sustainability.

Secondly, they will lead towards building a better ecological and green world for the current as well as future generations.



Source: https://ied.eu/
(Three Pillars of Green Entrepreneurship)

2. CHARACTERISTICS EXTRACTED ABOUT GREEN ENTREPRENEURS:

The basic goal of the green entrepreneurs is to earn profit by continuously innovating and improving environmental conditions there by providing to society something novel and eco-friendly. Based on this the following Characteristics are extracted about green entrepreneurs:

- They commence and initiates new risky business ventures wherein the outcome of the business is undefined at the very initial stage.
- They are inherently motivated & innovative. Their aim behind running a business undertaking is not just for earning profit but also serving the society with the sustainability.
- They consciously aim at converting those economic activities that will have an overall positive effect on the natural environment and on economic sustainability for a better future.
- They face enormous challenges and hurdles such as commitment from the public sector, suppliers, society, consumers, both internal & external environment even.

3. OBJECTIVES OF GREEN ENTREPRENEURSHIP

Green Entrepreneurs have strong internal motivation and urge related to arousing sensitivity to environmental issues, they address an environmental, social problem, need consciously and this is at the core of their business activity, their business activities have a positive effect on the natural environment and at the same time have the mission to achieve the goal with sustainability.

- Offering products or services the consumption of which leads to a change in the consumer's behaviour and perception.
- It helps in reducing the negative effect on the environment both internally and externally.
- Equalizing the ecological, economic, and societal goals of the company.
- Introducing innovative ecological solutions to problems connected majorly with manpower production and consumption of products and services.
- Developing business models and plans which, when applied to use, might lead to sustainable economic development.
- Discovering new possibilities on the market in the form of startups, innovations, creativity which are in connection with the demand and new way of living of the society.

4. ADVANTAGES OF GREEN ENTREPRENEURSHIP

- **Enhanced Environment prosperity -** Green entrepreneurship directly gives its benefits to the environment and its components, Many customers will come forward to support the green business as it does not affect the environment with this the green entrepreneurs can gain new end results and value additions to their organization.
- **Enhanced brand image and increased competitive advantage** – Green entrepreneurship enhances brand value and company image by the additions of various value add-ons and diversities.
- **Better financial and investment opportunities -** It provides large verities of investment opportunities in the form of venture capitalist and seed financing to gain profits and earn over a long period of time.
- **Improved recruitment and retention of quality employees -** people and entrepreneur's deliberately want to work for companies who are "doing the right thing at right time and cost". Sustainable practices have become an upcoming factor in determining what a company is made of and how ethical its employees are over the period.
- **Enhanced Environmental sustainability -** Make an enduring commitment to environmental principles in its business operations. A sustainable business knows that if it depletes the resources and the diversity than sustainability cannot be generated, it cannot go on indefinitely for the future.

5. CHALLENGES FACED BY GREEN ENTREPRENEURS

A business can retain and survive if it has support from all stakeholders such as government internal and external components, suppliers focusing on supplying environmentally friendly materials, and customers buying green products. The biggest challenge for green entrepreneurs is customer value creation through innovative products and cost control. Along with this customer education on environmental sensitivity is another task.

Successful entrepreneurship takes dedication and innovative hard work, and there are many challenges and sacrifices that many businesses owners face, including opportunities especially at the beginning of the journey.

Nevertheless, green entrepreneurs face challenges like lack of substitution of the traditional merchandise, cost control, redesigning, innovations, launching strategy, and lack of R&D infrastructure, etc.

Considering the above fact, the following are some challenges faced by Green Entrepreneurs:

- Lack of benefits in terms of financials, perquisites, and other requisite benefits.
- Companies or individuals may intentionally or unintentionally make false claims& beliefs regarding the environmental friendliness and ecosystem of their products or services, which is normally known as "greenwashing.
- Also another challenge that all entrepreneurs and budding entrepreneurs face is to get their business funded by angel investors or seed financers.
- Green entrepreneurship makes it hard to maintain social connections sometimes.

- Needless to say, starting out as green entrepreneurship is a stressful endeavour.
- Motivated workforce-another challenge is to find employees, which can be a difficult task for a young first-time entrepreneur depending upon the nature, calibre and zeal to work.

6. CONCLUSION

On the basis of this research paper, it can be concluded that green entrepreneurship has opened enormous opportunities and innovations for beginners who have identified and explored innovative ideas in serving the Indian society. The Green Entrepreneurs is a composition of Innovation, Technology, Sustainability and Environment & should have enough capital and resources to manage the business effectively & efficiently, as it may costs higher than other business manufacturing processes so the green entrepreneurs have to be prepared in all aspects to put the effort highly to attract the customers and make them purchase the green products to maintain sustainability. The decision-making process is quite difficult, as they have to come out with the decision that does not cause any environmental impact on the society, humans, and diversity.

“Thus, it can be concluded green entrepreneurship as a new type of commerce and startup, which maintains the equilibrium of profits and natural resources, and might possibly solve ecological, social and natural problems throughout its business activity.

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THE STUDY OF STOCK MARKET & CRYPTO IN WORLD'S LARGEST DEMOCRATIC COUNTRY: INDIA

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ABSTRACT

Inflation is increasing day by day which has lead people to start thinking about the total value of money in future terms in comparison to today's value. People are now becoming smarter and are willing to invest their money into multiple markets and growing their money while on the other hand reducing the overall risk. They understand if they keep their money in bank accounts it is not much beneficial for them. So now they are moving towards the new world of Investment. They examine the relationship between what they are investing and what they will get in return. The volatility in the stock market can arise because of several reasons. As the pandemic came in India it affects almost every industry, but it's majorly affecting the life of every individual. In our India there are eight stock exchanges but the three major players are BSE (Bombay Stock Exchange), NSE (National Stock Exchange) & Calcutta Stock Exchange (CSE). Bombay Stock Exchange is the oldest stock exchange in India which was established in 1850s by Premchand & Roychand. The policymaker, Investors and agents contribute their lot of time towards evaluation of risk of an individual. The evaluation of risk is depended upon on an individual according to their competency to bear the risk, the higher the risk the higher will be return. There are many companies which are listed to their business venture through public issues. Along with stock market nowadays every investor is willing to invest their money in crypto currency i.e., virtual money which has not any limitation and they also give a huge amount of return but this is not legal exchange currency in India. Therefore, our Central Bank i.e., RBI (Reserve Bank Of India) are planning to introduced in India it is highly volatile investment

Keywords: Stock Market, Circuit Filters & Breakers, Muhrat Trading, IPO, Mutual Funds, Crypto, Volatility.

1. INTRODUCTION

The rapid spread of COVID-19 pandemic affects the whole world in a very huge manner and changes the outlook of the world in other manner in which people are start living according to their safety the business offices were shifted to the work from home basis along with it the Indian stock market has introduced approx 142 Lakhs investor all over the India.

As the many countries were imposed a very strict lockdown around their countries for stopping spread of COVID-19 which results a huge crash in Economy or GDP, our India was slash down directly to 23.9% in Q-1 of 2020. All the transportation was freezed and the people were purchasing only the needs what they actually want for their survival due to the creation of pandemic among themselves. In this reference, the stock market was also getting downwards but the no. of investor are multiplying day by day and it reaches very high. The sectors like IT, Pharmaceuticals, FMCG, etc. are adversely affected by the covid-19 and it really given the higher returns than expected. But another side many of the sectors are crashes down like Tourism, Hotels, Aviation, etc. as there was no moment at all around the globe.

Once an analyst divided India in two categories first who seen the Taj Mahal and second are who didn't see same, we can say about the investors. There are two types of investors in India who know about the investment's opportunities in India and second one who didn't know about the investment opportunities or they have fear of loss that their money will fade away.

2. CAPITAL MARKET

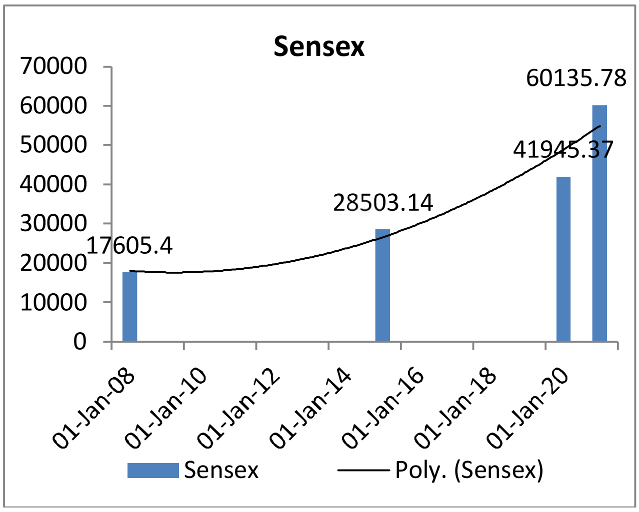
Capital Market is a place were buying and selling of long terms financial claims. Stock market is a place where the buyer can buy various types of bonds, mutual funds, stock, share, debenture, etc. with the help of brokers or by themselves through the many online platforms like PAYTM MONEY, UPSTOX, ZERODHA, etc or by the official companies' websites.

As the Indian Economic is volatility day by day along and the liberalization is also going high day by day. The Indian Finance sector is taking up a new image in the market by inviting new customers in the sector. There are many fields or platform where they can invest their money and can earn from them.

Warren Buffett said "If you don't find a way to make money while you sleep, you will work until you die."

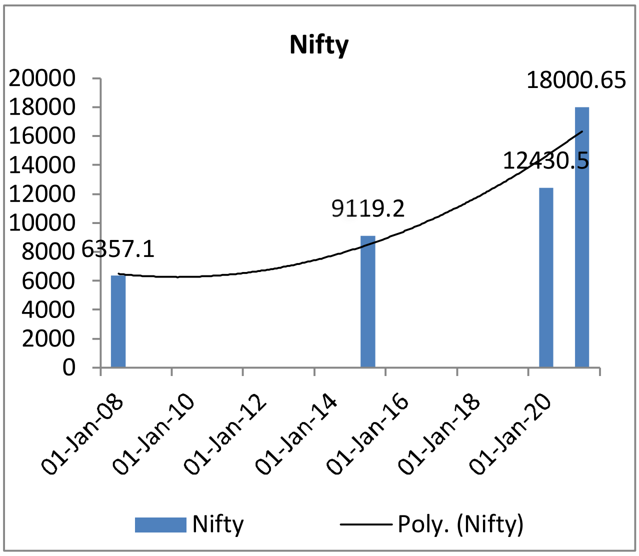
3. ABOUT SENSEX AND NIFTY

Sensex was started in 1979, by India's first established stock exchange which is BSE (Bombay Stock Exchange), the total companies were listed a total or over 5,749 Companies till F.Y. 2020 across the India from the day until now it is at above 60000 points. Reference to Dig: 01



Dig: 01

Nifty stands for National Stock Exchange (NSE) and is the equity benchmark index it was established on 1996 and its name as Nifty50 which has touched all time high 18000.65 points. Nifty 50 means that it includes stocks from the top 50 of nearly 1600 companies which are actively trading in NSE across 24 sectors. Reference to Dig: 02



Dig: 02

Circuit Filter or Breaker

A circuit breaker of filter it is the band or benchmark which refers to the price band- it is of two types low circuit and upper circuit; it is the interval in which the stock may be traded during a day. The circuit limit are set by the SEBI (Security Board Exchange of India) it was implemented from 2 July 2001, afterwards there were some amendments were made in September 2013.

4. PRE & POST TRADING SESSION

Pre Trading Session was introduced by SEBI on July 2010 to locate the Opening-Price of the stock to slash the volatility of securities during the open every day. Between 9:00 am to 9:15 am. It is done if opening-price of stock is in the equilibrium price based on the supply and demand of the security and not based on the price of the first trade for the security.

Same as Pre-Trading Session, **Post- Trading Session** are only available for equity trading. The post-market session or closing session is open from 3:40 pm to 4:00 pm.

During this allotted session, investor or trader can sell/buy place order in equity using CNC (Cash & Carry) method at the market price but if it places any order, it will be placed on the closing price.

5. RECENT TRENDS IN INVESTMENTS

Mahurat Trading is the trading of one-hour timings which held every year on the occasion of Diwali, a big festival for the India, usually it is type of a ritual than the real market action which held during evening hour and it is announced by the stock market exchange of India to intimate the traders and investors of the non-schedule trading hour, so the traders and investors trade in one this auspicious timing. BSE, NSE to hold 1 Hour special trading session on Nov from 6:15 pm to 7:15 pm on the occasion of Diwali.

6. IPO'S

An IPO (Initial Public Offering) is a process in which company issued there share and sold it to institutional investors or a retail individual investor. An IPO is typically ratified by one or more investment banks, who also help to arrange for share to be listed on one or more than one stock exchanges of India. The person can apply for the IPO through UPI method only. Few upcoming IPOs are:

- Nykaa - FSN E–Commerce Ventures Limited whose price range is about Rs.1,085-1,125, minimum investment amount Rs.13,020 and Minimum Quantity 12.
- Fino Payments Bank Ltd. to be announced.
- Paytm- One97 Communication Ltd. to be announced.
- Policy Bazaar- PB Fintech to be announced.
- Ixigo- Le Travenues Technology Ltd. to be announced.
- OYO- Oravel Stays Ltd. to be announced.
- GO Airlines India Limited to be announced.
- Mobikwik – One Mobikwik systems Ltd. to be announced.
- Shriram Properties Ltd. To be announced.
- Utkarsh Small Finance Bank Ltd. to be announced.

7. SIP'S

SIP's or Systematic Investment Plan are one of the most popular ways of investing in Mutual Funds. SIP helps to inculcate financial discipline and also build a great wealth for the future. With the help of SIP's an individual can gradually build a corpus in a systematic and in a planned manner. There are many platforms through which an individual can invest there money as low as Rs.100 to unlimited trough PAYTM Money, Groww, Upstox, etc. There is some of the SIP's fund where an individual can avail great returns from them.

- BOI AXA Small Cap Fund Direct – Growth
- Nippon India Multi Asset Fund Direct – Growth
- Aditya Birla Sun Life Liquid Fund Direct- Growth
- ICICI Prudential Liquid Fund Direct Plan-Growth
- DSP Liquidity Direct-Growth
- Kotak Liquid Direct- Growth
- Nippon India Liquid Fund Direct-Growth

8. OBJECTIVES OF THE STUDY

- To study the volatility in the stock market.
- To analyze the stock market deeply where a new generation of people are willing to invest their money.
- To present a future picture of a stock market where to invest.
- To study the multiple aspects of Indian Stock market.
- How to grab a golden opportunity in a stock market.

9. FUTURE PLANS

- India is the one of the fastest developing economy which will be surpassed 5 Trillion Dollar market by 2025 and become the world's third fastest growth economy. India is having a very young and very enthusiastic population with rising rising average income and also shown an increase in its growth rate in every segment since Independence.
- As the Sensex shoots 60000 points first time in a Indian history we can say that the market is in very good position and along with all this prediction we can also state that the day is very near when Nifty will about to shoot 18000.
- Many companies are upcoming with their new IPO's like Paytm - One 97 Communications Limited, Oravel Stays Limited (OYO), FSN E–Commerce Ventures Limited – Nykaa, PB Fintech - Policy Bazaar, Go Airlines India Limited, Shriram Properties Limited, Life Insurance of India (LIC), MonteCarlo Limited, Utkarsh Small Finance Bank Limited, etc.
- As per research India expected to have at least 500 Billionaires in just 5 years.
- TATA Son's have won there bidding for Air India about $2.4 billion purchase of debt-ridden, government-owned airlines i.e. Air India. JRD TATA or TATA Son's have promised to pay the debt or amounting $2.1 billion which the government had taken before the sale of Air India.
- As the country is moving towards the electric motors TATA POWER are planning to construct the smart EV Charging point for this they are planning to construct 60MW & 100 MW electric stations in Gujarat.

10. CONCLUSION

In this study, we have investigated the stock market on the basis performance of BSE and NSE; the two greatest stock exchange of India. The results show that the SENSEX and Nifty are performing very well in their all-time history and in near future it will also cross their highest point. Higher the risk the higher will be return and more and more investors will make an entry in the market which in-turn means more growth and prosperity.

It has also studied the impact of COVID-19 on the economy and the sectors which boomed and sectors which faced recession during this period. When all the transportation facilities were freezed and the people were in a state of panic and they started hording the necessary items, what they actually wanted for their survival due to pandemic situation which in-turn resulted in shortage if supply and hike in the pieces of the commodities. It also tells that there are two types of investors in India who know about the investment's opportunities in India and second one who don't know about the investment opportunities or they have a fear that their money will fade away.

It tells how the Indian Economic is becoming volatile day by day and how the liberalization is affecting the economy of India. We analyzed Sensex and Nifty and their market trends over a period of time. The paper provides information about future or upcoming plans of various companies like IPOs which will be introduced soon. It talks about what are SIPs and how to invest in them through PAYTM Money, Groww, Upstox and some of the renowned funds where an individual can invest. It predicts that in the coming years the economy will be touching skies

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SUSTAINABLE FINANCIAL MARKET STRATEGIES & INVESTMENT BEHAVIOR

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ABSTRACT

The aim of the paper is improvement of the idea of sustainable go back funding choices approach in capital and cash markets and modeling of funding choices alongside sustainable improvement idea in capital and cash markets. The studies turned into carried out with a test in FOREX and in a few matured and rising capital markets. The adequate for investments choice's reliability evaluation portfolio can be supplied and analysed as primary tool for growing sustainable go back funding choices approach. The instances of realistic implementation of ok portfolio can be broadly described. Further, the pragmatical issues the way to use the approach as progressive and powerful monetary tool for buyers and inventory treasury can be discussed. Practical calculation turned into made at the final records of various markets.

Keywords: Sustainable Investment Behavior, Capital & Cash Market, Investment Choice, Monetary Tool, Treasury.

1. INTRODUCTION

Presentation Making choices in business and accounts, we generally deal with the issue of hazard. Unwavering quality and hazard classifications habitually are summoned together, while investigating processes, framework conditions and advancement manageability. In any case, frequently these classifications are imagined as inverse to one another: when hazard builds, unwavering quality chance declines, and on the other hand – when hazard diminishes, dependability prospects increment. There is no question that such an explanation is the speculation of genuine circumstances, however regularly such authority of the unwavering quality and hazard definitions can meddle with a more profound exploration on these cycles cooperation (Risk class is utilized when the chance of bringing about monetary or other misfortune is examined.

Though dependability class is utilized for focusing on maintainability of the specific framework, as such – its capacity to hold character or ability of playing out its capacities. In useful circumstances assess what necessity should be carried out to ensure the framework maintainability with the progressions in inward or ecological danger. Normally, stock costs, money rates just as market produced speculation impact are stochastical cycles or sets of stochastical values. Subsequently the execution of the utilized supportable advancement choice technique in capital and trade markets necessities is estimated by specific likelihood models. Typically investigating speculation choices, the fundamental consideration is paid to two boundaries – productivity, or in alternate way estimated venture proficiency, and hazard. Regard for those two attributes is particularly clear in present day portfolio choices.

2. A RISE IN SUSTAINABLE INVESTING

Worldwide resource proprietors currently regularly fuse natural, social and administration (ESG) factors in their venture dynamic. The latest Sustainable Signals study of worldwide resource proprietors by the Morgan Stanley Institute for Sustainable Investing and Morgan Stanley Investment Management distributed in 2020 uncovered eight of every ten resource proprietors effectively coordinate ESG factors into the speculation cycle—up 10 rate focuses in two years—while a further 15% are thinking about doing so.3 to operationalize it. This can bring about inaction and botched freedoms. Or then again, financial backers might react excessively fast to tension from partners like workers, outside recipients, controllers, peers or non-legislative associations. This frequently brings about an interwoven methodology that comes up short on a strong account, gambling inside misalignment or reputational hurt.

Simultaneously, practical contributing remaining parts moderately new for a greater part of worldwide resource proprietors. Our most recent study likewise discovered that 73% started rehearsing feasible contributing under five years prior—and 21% inside the most recent a year. To best position themselves as long as possible, establishments ought to be ready to refine their systems against a setting of developing business sector elements and developing partner and administrative tension. This incorporates, for instance, choices on which resource classes, approaches and maintainability topics to make their concentration.

3. THE THOUGHT OF CONSERVATIVE RETURN ADVENTURE DECISIONS STRATEGY

Framework can be seen by different points of view. To the extent affiliation, technique is the amount of decisions, portraying the vitally various leveled future targets, moreover exercises and means for reaching them (Garavelli et al. 2004). Method, in software engineering appraisal, is any sensible rule choosing explicit exercises in any unique situation. Formally, system is the limit of the information gained, which takes regards in all possible game plan of choices at the given second. This standard ought to join the whole powerful time span and every single under the sun situation. Still uncertain standards and conditions are named as essential strategies. Their using result is for the most part portrayed as method execution or non-execution. Frameworks making clear procedures possibilities probability courses, are named as mixed strategies; and about their affirmation we can say by these classes: by mean, with probability 1, by probability, etc These days the approach's class even more routinely obliges the modifier "sensible".

There is no differentiation – is it an overall climate defilement decline issue, or is it a little firm energy supply issue. Besides, this is explained similar to insightful new development, yet likewise to the extent direct economy. Regularly, with the beginning of the far reaching maltreatment of the class "viable method", its substance shift a ton. In any case, basically unambiguous example is seen – sensible technique even more every now and again is depicted quantitatively, for instance to find quantitive pointers allowing to perceive procedure viability. There is no doubt that the middle gratings for legitimacy setting up is the steadfastness of the examined system separate parts or their particular mixes. Method in reserves is seen as a game plan of exercises to get the most essential utility. As critical exercises, attracting resources in accounts are stressed over theories, adventure methods improvement transforms into an irrefutably huge financial issue nowadays.

Adventure approach is the theory decisions set, by execution of which a monetary sponsor tries to get the best efficiency and reliability blend. Here the possibility steadfastness is an essential factor, towards appraisal of which the chance of agreeable endeavor decisions resolute quality assessment portfolio was composed. The prudent endeavor decisions, or fundamentally premium in cash and capital business areas framework, can be taken such a strategy, which grants to get basically showcase made usefulness, similarly as contributed capital worth addition. Considering exchange and capital market peril degree and risk arrangement, the undertaking to cultivate such an approach can be seen as expect to swim through the Atlantic ocean with a clear boat. So the certified game plan of an especially unpredictable issue as plausible hypothesis methodology progression is possible just with agreeable means.

4. TRYING TO CLARIFY MONETARY MARKET CONDUCT

Different investigations performed by the researchers have demonstrated that utilization of different methods can give promising outcomes concerning securities exchanges estimating (Zavadskas, Turskis 2008). Therefore, a lot of instances of various strategies applications on securities exchanges has showed up in writing. Two principle patterns of stock investigation have created over years: major examination and specialized examination. Basic investigation depends on the investigation of elements outer to the exchanging markets which influence the market interest of a specific market. Central examination is performed on the economy, industry and friends levels and considers factors like climate, government approaches, homegrown and unfamiliar political and financial occasions and changing exchange possibilities (Markowitz 1952).

Specialized examination depends on the hypothesis that market costs at any second mirror every one of the known pointers, which impact market interest on a specific market. It examinations market costs themselves. Specialized examination incorporates such techniques as basic channel rules, moving normal, relative strength investigation, and numerous other exchanging procedures. Additionally, more intricate non-direct models at stock costs investigation, like disarray hypothesis, fluffy sets, fake neural organizations are progressively examined among specialists (Biacino, Gerla 2002; Chatterjee et al. 2000; Grim 2006). Attempting to comprehend the market and clarify its cycles to figure its conduct satisfactorily has lead to the arrangement of various speculations and theories.

An Efficient Market Hypothesis (EMH) was figured, expressing that it is difficult to beat the market since costs currently join and mirror all applicable data. Allies of this model trust it is trivial to look for underestimated stocks or attempt to foresee patterns in the market through any method from principal to specialized investigation (Fama 1965). Another notable hypothesis is the supposed Random Walk Theory (RWT). This hypothesis asserts that market costs follow an arbitrary way with practically no impact by past value developments, making it difficult to foresee with any precision which bearing the market will move anytime. As such, this hypothesis expresses that the variances of the stocks costs not set in stone from chronicled value data (Chi, Lu 2006; Malkiel 1973). The advocates of this hypothesis accept that neither principal nor specialized examination have any legitimacy.

5. THE CONCEPT OF MARKET PORTFOLIO

The measurement of the market behavior is best evaluated and repeated with the help of market portfolio construction. Thus, there is a need to specify the concept of the market portfolio. A market portfolio is a portfolio consisting of a weighted sum of every asset in the market, with weights in the proportions that they exist in the market (with the necessary assumption that these assets are infinitely divisible). An investor who wishes to hold the market portfolio as part of his overall investment portfolio would theoretically hold shares in all the companies quoted on the stock market, in amounts proportionate to their total market values. The concept of the market portfolio produces a definition of equilibrium market prices.

6. THE ADEQUATE PORTFOLIO

While it would appear that many reassets have an opinion approximately the "right" range of shares to very own in a portfolio, there simply isn't anyt any unmarried accurate solution to this question. The accurate range of shares to keep to your portfolio relies upon on numerous factors, which include your us. of house and funding, your funding time horizon, the marketplace conditions, and your propensity for analyzing marketplace information and preserving up to date for your holdings.

7. KEY TAKEAWAYS

- While many reasserts have an opinion approximately the "right" range of shares to very own, there simply isn't any any unmarried accurate solution to this question.
- The accurate range of shares to keep relies upon on some of factors, which include your funding time horizon, marketplace conditions, and your propensity for preserving up to date for your holdings.
- While there may be no consensus solution, there may be an inexpensive variety for the perfect range of shares to keep in a portfolio: for traders within side the United States, the range is ready 20 to 30 shares. Understanding the Ideal Number of Stocks to Have in a Portfolio

Investors diversify their capital into many distinct funding cars for the number one cause of minimizing their threat publicity. Specifically, diversification permits traders to lessen their publicity to what's called unsystematic threat, which may be described because the threat related to a specific agency or industry.

Investors are not able to diversify away systematic threat, inclusive of the threat of an monetary recession dragging down the complete inventory market, however educational studies within side the vicinity of present day portfolio idea has proven that a well-assorted fairness portfolio can efficaciously lessen unsystematic threat to near-0 levels, whilst nonetheless preserving the identical predicted go back stage a portfolio with extra threat could have.

In different words, whilst traders have to be given more systematic threat for probably better returns (called the threat-go back tradeoff), they typically do now no longer revel in accelerated go back capacity for bearing unsystematic threat.

The more equities you hold in your portfolio, the lower your unsystematic risk exposure. A portfolio of 10 stocks, particularly those across various sectors or industries, is much less risky than a portfolio of only two stocks.

Of course, the transaction costs of holding more stocks can add up, so it is generally optimal to hold the minimum number of stocks necessary to effectively remove their unsystematic risk exposure. What is this number? There is no consensus answer, but there is a reasonable range.

For investors in the United States, where stocks move around on their own (are less correlated to the overall market) more than they do elsewhere, the number is about 20 to 30 stocks. Predominant research in the area was conducted prior to the revolution of online investing (when commissions and transaction costs were much higher), and most research papers put the number in the 20 to 30 range.

A well-diversified equity portfolio can effectively reduce unsystematic risk to near-zero levels, while still maintaining the same expected return level a portfolio with excess risk would have.

More recent research suggests that investors taking advantage of the low transaction costs afforded by online brokers can best optimize their portfolios by holding closer to 50 stocks, but again there is no consensus.

Keep in mind that these assertions are based on past, historical data of the overall stock market, and therefore does not guarantee that the market will exhibit the exact same characteristics during the next 20 years as it did in the past 20.

As a general rule, however, most investors (retail and professional) hold 15 to 20 stocks at the very least in their portfolios. If you are intimidated by the idea of having to research, select and maintain awareness of about 20 or more stocks, you may wish to consider using index funds or to provide quick and easy diversification across different sectors and market cap groups, as these investment vehicles effectively let you purchase a basket of stocks with one transaction.

8. CONCLUSIONS

Sustainable funding go back approach at the trade or capital marketplace may be known as a approach permitting exceeding marketplace generated impact in a as an alternative lengthy period.

One of the maximum appropriate approaches for sustainable funding go back approach improvement is ok for funding choice's reliability evaluation portfolio. It differs from the contemporary-day portfolio, due to the fact contemporary-day portfolio operates best with categories – income capacity and risk. On the alternative hand, ok portfolio commensurate profitability, riskiness and reliability.

Sustainable funding go back approach become carried out on trade and capital markets. The gadget of selection control in foreign money and capital markets, become used for growing and imposing a sustainable funding go back approach. Strategy implementation consequences display that the approach is able to accomplishing better than the common utility.

Getting to flawlessly realize and properly expect the marketplace could result in its efficiency and could query the principle function of the marketplace – incognizability. Alter natively, an assumption that there exist the so-known as performance shoals available in the marketplace could keep its incognizability and permit to expect it in positive time periods.

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AN EMPIRICAL ANALYSIS ON MARKETING STRATEGIES ADOPTED IN LIFE INSURANCE INDUSTRY

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ABSTRACT

Where practically every one of the enterprises on the planet making a decent attempt for endurance because of the major financial emergency, Indian disaster protection industry is one of the areas that is as yet noticing great development. It is the changing patterns of Indian protection industry just that has come to adapt to the changing financial climate. Indian protection industry has changed itself with the progression of time by presenting redid items dependent on clients' need, through imaginative dissemination channels, Indian extra security industry looked through its way to develop. Changing government strategy and rule of the administrative power, IRDA have likewise assumed an extremely imperative part in the development of the area. Move from non-connected to unit enjoyed protection arrangements is one of the significant positive changes in Indian extra security area. Protection industry adds to the monetary area of an economy and furthermore gives a significant federal retirement aide net in non-industrial nations. The development of the protection area in India has been sensational. The protection business has gone through a monstrous change in the course of the most recent couple of years and the transformation has been critical. There are various private and government insurance agencies in India that have become inseparable from the term protection throughout the long term. Offering an expanded item portfolio and great administrations the numerous insurance agencies in India have figured out how to advance into pretty much every Indian family.

In this paper we center predominantly around every one of the significant parts of life coverage showcasing action according to an administrations point of view and features the contemporary promoting systems took on by the disaster protection organizations in India

Keywords: Marketing Strategies, Life Insurance, Plan; Insurance Product, Marketing.

1. INTRODUCTION

While prior investigations on Life Insurance area have inside and out been an overall report on in general perspective on LIC of India. It is applicable to allude momentarily to the past research contemplates in the connected spaces of the current review to stay away from reiteration and furthermore to look out the changed elements of the review. Among prior investigations, Arora (2002) featured that LIC was probably going to confront intense rivalry from private life guarantors notwithstanding having enormous regular organization and their gifted middle people all through India. Kumar and Taneja (2004) featured the chances and difficulties before life coverage industry in India because of progression, globalization and privatization. Bhattacharya (2005) supported that bancassurance gave the best chances to tap the huge potential in provincial and semi metropolitan regions. He proposed that the safety net providers should zero in on Single Premium approaches, Unit Linked Insurance, Pension Market and Health Insurance. Kumar (2005) featured that private protection players presented an enormous scope of extra security items and set brand advancement as a piece of their new methodology. These new executed methodologies had adaptability and added advantages to suit the changing necessities of the unsatisfied clients. Kulshrestha and Kulshrestha (2006) featured that interest for life coverage in rustic India was growing at the yearly pace of 18% when contrasted with 3.9 percent in metropolitan regions which gave great freedom to life guarantors to perform. Reenu (2011) have featured the various systems corresponding to 3Ps under life coverage market. Vikas (2012) have put forth an attempt to investigate a relative report dependent on private and public extra security organizations. To settle the exploration and to figure the examination point a broad writing study was led from distributed and unpublished lists of sources, Academics diaries, gathering procedures, government reports, Internet surfing (Web locales), paper and magazines identified with the subject, and so forth Uncommonly, yearly reports of chosen organizations rode which assist me with understanding exploration issue completely and gave analyst a layout to continue further. The writers and academicians who are as of now leading exploration studies were additionally counseled for legitimate direction.

Where practically every one of the businesses on the planet making a decent attempt for endurance because of the major monetary meltdown, Indian life coverage industry is one of the areas that is as yet noticing great development. It is the changing patterns of Indian protection industry just that has come to adapt to the changing monetary climate. Indian protection industry has altered itself with the progression of time by presenting tweaked items dependent on clients' need, through inventive conveyance channels, Indian extra security industry looked through its way to develop. Changing government strategy and rule of the administrative position, IRDA have additionally assumed an exceptionally fundamental part in the development of the area. However, the area is developing quick, the business has not yet guaranteed even half of insurable populace of India. Along these lines the area has an incredible potential to develop. To accomplish this level headed, this area requires greater improvement in the protection thickness and protection infiltration. Advancement of items including uncommon gathering strategies to take into account various classes ought to be a need, particularly in country regions. By embracing suitable methodology alongside appropriate government support and capable direction of IRDA, India will positively turn into the new protection goliath in not so distant future

2. OBJECTIVE OF THE STUDY

The following objective were determined of this study:

- The first objective of this study was to know why marketing of life insurance products are important in present scenario.
- The second objective of this study was to gather knowledge about different marketing strategies popular in life insurance sector.
- The third objective is to know how effective marketing strategies in the industry.
- The fourth objective of this study was to know whether the adopted marketing strategies have helped life insurance sector.

3. HYPOTHESES OF THE STUDY

In order to achieve the defined purpose of the research study following hypotheses have been considered:

- Effectiveness of marketing strategies adopted by Life insurance industry.
- Is the current marketing strategies adopted by insurance sector helpful in terms of increase business volume?

4. STATUS AND POSITION OF INDIAN LIFE INSURANCE INDUSTRY IN THE PRE LPG ERA

In India, life coverage in its cutting edge structure came from England in the year 1818 when Oriental disaster protection Company began by Europeans in Calcutta. All the protection businesses set up during that timeframe were raised fully intent on taking care of the requirements of European people group and Indian locals were not being guaranteed by these organizations.

Later on with the endeavors of prominent individuals like Babu Muttylal Seal, the unfamiliar everyday routine insurance agencies began guaranteeing Indian experiences. Yet Indian daily routines were being treated as unacceptable lives and substantial extra expenses were being charged on them. Anyway in the year 1870, Bombay Mutual Life Assurance Society proclaimed the introduction of first Indian everyday routine insurance agency and covered Indian experiences at ordinary rates. Bharat Insurance Company (1896) was another of such organizations motivated by patriotism. The Swadeshi development during 1905-1907 led to more insurance agencies. The United India in Madras, National Indian and National Insurance in Calcutta and the Co-usable Assurance at Lahore were set up in 1906. The Indian Mercantile, General Assurance and Swadeshi Life (later Bombay Life) were a portion of the organizations that set up during a similar period. Preceding 1912, India had no enactment to manage protection business. Anyway in the year 1912, the Life Insurance Companies Act, and the Provident Fund Act were passed. The Life Insurance Companies Act, 1912 made it important that the top notch rate tables and periodical valuations of organizations ought to be affirmed by a statistician, yet in genuine the Act segregated among unfamiliar and Indian organizations on many records, putting the Indian organizations in a difficult situation. The initial twenty years of the 20th century saw part of development in protection enterprises. From 44 organizations with all out business-in-power of Rs.22.44 crore, it rose to 176 organizations with all out business-in-power of Rs.298 crore in 1938. During the mushrooming of insurance agencies numerous monetarily shaky concerns were likewise glided which flopped pitiably. The Insurance Act 1938 was the main enactment overseeing life coverage as well as non-disaster protection to give severe state command over protection business. The interest for nationalization of disaster protection industry was made over and over before however it built up speed in 1944 when a bill to change the Life Insurance Act 1938 was presented in the Legislative Assembly. Nonetheless, it was a lot later on the nineteenth of January, 1956, that disaster protection in India was nationalized. Around 154 Indian insurance agencies, 16 non-Indian organizations and 75 fortunate were working in India at the hour of nationalization. Nationalization was cultivated in two phases; at first the administration of the organizations was taken over through an Ordinance, and later, the possession too through an exhaustive bill

In 1993, Malhotra Committee headed by previous Finance Secretary and RBI Governor R.N. Malhotra was shaped to assess the Indian protection industry and suggest its future course. The Malhotra advisory group present its report in 1994 with following proposals:

1) STRUCTURE Government stake in the insurance agencies to be brought down to half. Government should assume control over the possessions of GIC and its auxiliaries with the goal that these auxiliaries can go about as autonomous companies. All the insurance agencies ought to be given more noteworthy opportunity to work

2) COMPETITION Private Companies with a base settled up capital of Rs.1bn ought to be permitted to enter the business. No Company should bargain in both Life and General Insurance through a solitary substance. Unfamiliar organizations might be permitted to enter the business in a joint effort with the homegrown organizations. Postal Life Insurance ought to be permitted to work in the provincial market.

3) REGULATORY BODY The Insurance Act ought to be changed. An Insurance Regulatory body ought to be set up. Regulator of Insurance (Currently a section from the Finance Ministry) ought to be made free.

4) INVESTMENTS Mandatory Investments of LIC Life Fund in government protections to be decreased from 75% to half. GIC and its auxiliaries are not to hold over 5% in any organization (There current possessions to be brought down to this level throughout some stretch of time).

5) CUSTOMER SERVICE LIC should pay interest on delays in installments past 30 days. Insurance agencies should be urged to set up unit connected benefits plans. Computerisation of tasks and refreshing of innovation to be completed in the protection business But simultaneously, the board of trustees wanted to practice alert as any disappointment with respect to new players could destroy the public trust in the business. Thus, it was chosen to permit rivalry in a restricted manner by specifying the base capital necessity of Rs.100 crores. The panel wanted to give more noteworthy independence to insurance agencies to work on their exhibition and empower them to go about as autonomous organizations with financial intentions. For this reason, it had proposed setting up an autonomous administrative body. Finally, Insurance area has been opened up for rivalry from Indian private insurance agencies with the sanctioning of Insurance Regulatory and Development Authority Act, 1999 (IRDA Act). According to the arrangements of IRDA Act, 1999, Insurance Regulatory and Development Authority (IRDA) was set up on nineteenth April 2000 to secure the interests of holder of protection strategy and to manage, advance and guarantee methodical development of the protection business. IRDA Act 1999 made ready for the passage of private players into the protection market which was up until recently the selective advantage of public area insurance agencies/partnerships. The Authority has informed 27 Regulations on different issues which incorporate Registration of Insurers, Regulation on protection specialists, Solvency Margin, Re-protection, Obligation of Insurers to Rural and Social area, Investment and Accounting Procedure, Protection of strategy holders' premium and so forth Applications were welcomed by the Authority with impact from fifteenth August, 2000 for issue of the Certificate of Registration to both life and non-life guarantors. IRDA has up until this point conceded enrollment to 12 private disaster protection organizations and 9 general insurance agencies. In the event that the current public area insurance agencies are incorporated, there are right now 13 insurance agencies in the existence side and 13 organizations working in everyday protection business.

5. RESEARCH METHODOLOGY

The examination approach embraced for this review is fundamentally identified with the developmental exploration technique. The examination study depends on the optional hotspots for gathering information. The optional information comprised of Annual reports of LIC and IRDA and furthermore some other distributed diaries and magazines of LIC like Yogeashema month to month diary, Pragati quarterly magazines for the concerned subjects of related years. The current examination study is chiefly founded on the Annual reports of I.R.D.A. also, LIC of India for significant information of separate a long time starting around 2014 till 2021. The exploration study has additionally gathered some data from sites of LIC and IRDA.

6. COLLECTION OF DATA

Before finalizing the topic of this research, I gone through the various literatures related to the concepts, theories and literature of empirical data related to this research field. This literature helped me to understand the problem in detail and gave me the idea to collect the various sources of data primary and secondary. The entire study is designed and planned in such a way that the discriminating data's will be segregated easily. The purpose of this overview of literature is not to list the number of published, either all or few, well known works but to cut out important findings that relate to the substantive concern of the purposed research. The culling of important findings is necessary for determining the salience of the problem itself on the one hand, and illuminating the theoretical perspective one brings to bear on the problem of research on the other, thereby helping in the cumulating of social science knowledge"

However, the entire procedure of finalizing the research topic helped me to fix the boundary of research and provides a basis for ascertaining the nature of data required for the conduct of enquiry and research.

7. SECONDARY DATA

To finalize the research and to formulate the research topic an extensive literature survey was conducted from published and unpublished bibliographies, Academics journals, conference proceedings, government reports, Internet surfing (Web sites), newspaper and magazines related to the topic, etc. Specially, annual reports of selected companies surfed which help me to understand research problem thoroughly and gave researcher a outline to proceed further. The journalists and academicians who are already conducting research surveys were also consulted for proper guidance.

8. RATIONALE OF THE STUDY

According to Maslow proponed need is security need which include two types of security Physical and economical.

Insurance is the tool which unable to save the life of a human being threw natural calamities and manmade misshaping and accidents. But insurance provide economical safety with these known and unknown misshaping such as natural calamities - earthquake, flood draught, serious diseases, accidents, and misshaping.

In the context of modern world and era the need and role of insurance is day by day increasing because human being his self or herself feels unsecured. The solution of this unsecured feeling is by the insurance which protect to an economically to a human being to a great extent and helpful for clients (insurance holders) to live our life smoothly. In this context the researcher has selected this very valuable and contemporary topic for the study. Now doubt day by day the insurance business is own fast rack. So many national and international players coming in this business with their innovative need oriented, plans/scheme/products for better serve their clients. The selection of the research problem depends on the inclination, training and experience. A broad field within which, I am going to contact the study have deep interest in the field. This enthusiasm and real curiosity enhance me to motivate for the successful completion of the study. While deciding the research problem it is very necessary to take following feature into the consideration:

- Technical and statistical terms should be clearly defined
- Assumptions fixed for the research work should be clearly defined
- Clear investigation material is essential with clear cut expressions
- Scope of the research problem should be clearly defined

9. ENDS AND RECOMMENDATIONS

From the above conversations, it is very certain that, LIC is having profoundly experienced, qualified and office staff, thus this may be the genuine strength of LIC with which it's doing acceptable business on the lookout. It is smarter to the LIC to realize that, the authorities of LIC ought to instill diverse sort of mentalities relies on the demographical profile. Since it is the mentality of the LIC authorities which might inject and mean to purchase strategy as it having government security and some more.

It is proposed to the LIC that they should give front spotlight on essential advertising draws near. Since the necessities and wants, needs requests of clients are having unpredictability in their order. Henceforth it might become unavoidable for the LIC to have an alternate key business sector approaches dependent on item portfolio blend, to fulfill the clients

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FACE RECOGNITION/FACE DETECTION TECHNIQUES WITH & WITHOUT FACE MASK USING MACHINE LEARNING: TENSOR FLOW, KERAS, OPENCV AND DEEP LEARNING

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ABSTRACT

In the current situation of pandemic time, Face-masks have become the base of life. This pandemic has quickly affected our daily lives, which disrupted the global world. Wearing a protective face mask has become a need of everyone & save life. One of the most effective preventive measures is to wear a mask in public places according to the World Health Organization. Various types of health reports indicate that wearing face masks while on the public place and in publically reduces the risk of virus transmission. In the coming days, many institution/organizations or public sectors will ask the users to wear masks correctly to offer of their services. Consequently, correct face mask detection technique has become a need & to help global world or society. We present the most recent face recognition or detection techniques; have much more advantages and disadvantages. Some techniques specified here also improve the efficiency of face detection under various new illuminations and expression situation of face images. In this paper, we present a systematic approach to get this goal using some basic Machine Learning applications i.e., TensorFlow, Keras, OpenCV and Deep learning. The objective of this method is to identify whether the person on image or video stream is wearing a face mask or not. Therefore, the above method or technique detects the face by face-mask recognition technology identifies a person wearing masks correctly or not with the help of computer vision (OpenCV) and deep learning, which contains of two images sets, with & without face masks. Most advanced technology that is Deep Learning is used in face mask recognition. The face mask detection device can detect a face along with a mask in motion. This method covered the accuracy rate up to 90.37% (aprox.) and 91.23% (aprox.) respectively on two different datasets or two objects detection methods i.e., TensorFlow, OpenCV and Convolution Neural Network (CNN) are used to get this task.

Keywords: Face Mask, Face Mask Recognition, TensorFlow, Computer Vision, Machine Learning, Face Mask Detection, Convolution Neural Network, Deep Learning.

1. INTRODUCTION

Face detection is an interesting area and major challenging issues in the field of image analysis and computer vision technology (OpenCV), and as such has received a great benefit of attention over the previous years through various domains. It is use in multiple domains such as in ATM, healthcare system, driving license system, railway reservation system, surveillance operation and passport authentication. In large database, face recognition is always a challenging task.

Face recognition techniques can be broadly divided into three categories based on the face detection data acquisition methodology: methods that operate on intensity images; those that deal with video sequences and those that require other sensory data such as infra-red imagery or 3D information.

2. TAXONOMY OF RELATED WORK

In face detection process, a face is identified from a live or images that have many attributes in it. Biometric-based system have integrated as the most promising choice for reorganization of individuals and granting them access to physical and virtual domains-based system on passwords, smart cards, tokens number, keys and etc, these techniques test an individual's characteristics in order to determine his identity. These identification techniques i.e., passwords and PINs are difficult to learn and can be stolen, misplaced, forgotten, purloined, duplicated or guessed by anyone; these activities are not followed in face recognition. In face detection technique include tracking of face, recognizing the face expression and pose estimation. For the input image it is challenging task to identify face from that because images are having different shape, color, dimension etc and they are not immutable.

In Face recognition process, the input image is compared with the database. The input image is also known as probe and the store the database record is known as gallery. Then it generates a report and categorization is done to identify new observations match.

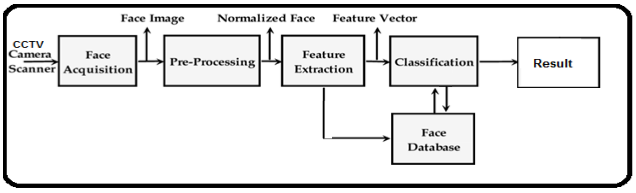


Figure: Flow Procedure of a Face Recognition System

3. APPROACHES FOR FACE RECOGNITION

Mainly three Approaches for face recognition:

- **Features-based approach:** In features-based approach identified the local features like nose, lips and eyes are segmented and can be used as input data in face detection to facilitate the task of face recognition system.

- **Holistic based approach:** In holistic approach find the whole face is taken as the input in the face detection system to perform face recognition system.
- **Hybrid based approach:** Hybrid approach is combination of features-based approach and holistic approaches also find local features and whole face is used as the input to face detection system.

Face recognition appears to provides multiple benefits over other biometric methods, a some of which are outlined here: Mostly all these technologies need few voluntary actions perform by the user, i.e., the user places his hand on a hand-rest for hand geometry detection or fingerprinting and has to stand in a front of a media device or camera for identification.

Almost, face recognition technology can be done without any external or participation area on the part of the user since face picture can be capture from a distance by a camera. Face recognition technology is particularly beneficial for security and surveillance purposes. However, facial expressions can be easily obtained with a few inexpensive cameras.

Overall, finally, technologies that require many people to use the same equipment to capture their biological features that may expose the user to the transmission of viruses and impurities from other users. So facial recognition system is not at all disturbing policy and does not affect such health risks.

4. TYPES OF FACE RECOGNITION

The face is an important part of the body, which plays a vital role in determining one's personality. Correction plays an important role in facial recognition while identifying the face on a monitor or CCTV camera. In the face recognition system, the first step is to find the face in the image. A key feature for face detection is to indicate if there is one face in the image or more when viewing a still image or video image. The face is mainly large in 2D and 3D with a different shape and shape of the face.

- **2D face recognition:** In 2D face recognition the following four steps were used: In face recognition the first step was face recognition, the second step was face alignment, the third step was to remove the feature and the fourth step was to feature a feature from a registered user interface to see faces. Typically, face images are represented by a high-vector vector containing pixel values. Feature matching is done to match the input face in the form of a photo or video from an available website of registered photos with different face identities. The various techniques used for facial expressions were based on color, firmness, and lightness. Is it one of those challenging tasks to see who you are? And the researcher faces many challenges such as facial expressions, brightness, and exposure to image variability and closure in facial recognition. There have been some limitations of 2D face recognition. The level of 2D face recognition system quality and performance depend on the photography conditions such as head shape, image quality, light conditions, blurred, facial shape.
- **2D-3D face recognition:** Andrea F. Abate et al. proposed a reliable method of integrated 2D visual images and 3D model face recognition based on various parameters such as input size, number of built-in functions and level of recognition.

Eigen faces and stereo vision systems used to enhance the performance of a 2D face recognition system with 3D information known for face contrast. The face of a person in a different condition is identified with the help of a neural network based on the scan line.

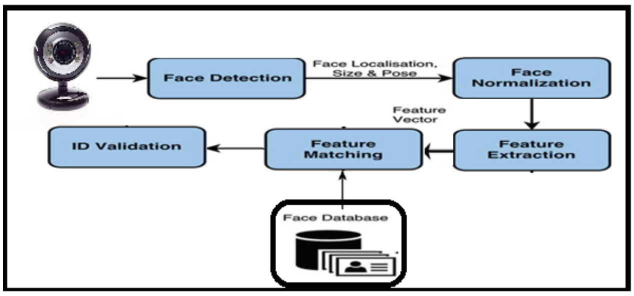
5. FACE IDENTIFICATION PROCESS

Face recognition technique have frequently use of principal component analysis for feature extraction and recognition. Face recognition is effectively used for two basic tasks:

1. Verification of one thing: When presented with a face image of an unknown individual along with a claim of identity, ascertaining whether the individual is who he/she claims to be.

2. Identification of multiple thing: Given an image of an unknown individual, determining that person's identity by comparing (possibly after encoding) that image with a database of (possibly encoded) images of known individuals.

Data Flow Diagram (DFD) FOR Face Recognition System: Face verification & identification process is shown below in figure:



There are many areas of application where facial recognition can be used for these two purposes, a few of which are described below.

- Security
- Caution
- Standard ownership verification
- Criminal justice systems
- Image database investigation
- "Smart Card" apps
- Mixed media sites with flexible human computer connections

- Video guide
- Reconstruction of witness faces

6. FACE RECOGNITION OR FACEMASK DETECTION TECHNIQUE OR PROPOSED PACKAGED

We have developed a smart automated framework for testing people who do not use face masks in this paper. In a smart city, all public places are monitored by CCTV cameras. Cameras used to take pictures in public places; then these images are placed in a system that indicates that any person without a face mask appears in the image. If any person who does not have a face mask is found then this information is sent to the relevant authorities to take the necessary action.

Tensor Flow: It is an open-source library machine learning program for creating and training neural networks. It is a combination of tools, API, libraries and community resources programs that help in the easy creation of machine language applications. This tool is developed and maintained by Google team and released in the year 2015 for internal use of team member. After that in 2017, it was available for open-source program for open forum. Tensor Flow can be work on multiple CPU's and GPU's and supports 64bit Linux, macOS, Windows, and mobile telecommunication including Android and iOS version. Basic idea behind the invention is to reduce computation time in deep learning networks during training and deploying the model. It has been used in many areas of research such as emotional analysis, voice recognition, and extraction of spatial information, computer vision, and summarization, retrieval of information, e-drug discovery and error detection for research purposes. In current model, the whole Sequential convolution neural network (CNN) architecture (contains of multiple layers) uses Tensor Flow at backend side. It is also used data processing stage with high iteration velocity. All the layers used in the CNN model are implemented using Keras software along with the conversion of the class vector to the binary class matrix in data processing; it also assists to compile the complete model.

OpenCV: Open-Source Computer Vision Library (OpenCV) is an open-source computer vision and Machine Language API library. This is utilized to many functions and algorithms for Motion tracking, Object Detection, Segmentation & recognition, Facial recognition, and many more applications and also differentiate and group movements in recordings, trace progressive modules, follow eye gesture, track camera actions, expel red eyes from images taken utilizing flash light, find comparative pictures from an image database. The technique makes a frequent use of these features of OpenCV for resizing and color conversion of data images.

Keras: Keras is an open-source software library that provides a Python virtual interface for neural networks in practice. Keras acts as a visual connector for the Tensor Flow library and explores in-depth reading models. It integrates the mathematical API libraries of Theano software and TensorFlow module and allows you to explain the definition and train neural network models with some lines of code. Keras contains a wide range of commonly used neural-network building blocks such as layers, objectives, unlocking tasks, layouts, and a host of tools to make working with image and text data easier to make the required code easier to write in-depth neural network code.

In addition to standard neural networks, Keras has convolution support and duplicate neural networks. Supports other common application layers such as quitting, bulk customization, and merging.

Keras allows users to create in-depth models on smart phones (iOS and Android), the web, or Java Virtual Machine. It also allows for the widespread use of in-depth learning models in Graphics (GPU) units and tensor processing units (TPU). Keras supports multiple back ends, including TensorFlow, Microsoft Cognitive Toolkit, Theano, and Plaid ML. Only TensorFlow is supported. It is designed to enable rapid exploration through deep neural networks, focusing on ease-of-use, modular, and scalability.

Keras models: The model is a basic Keras data structure. Main two types of models available in Keras: sequential model and class of models used with the active API.

The steps you will as follows:

- Upload Data.
- Describe the Keras Model.
- Combine Keras Model.
- Fit Keras model.
- Model Keras Model.
- Make Predictions

Deep Learning: Deep Learning is a part of machine learning where artificial neural networks (ANN) algorithms based on the structures such as deep neural networks, deep belief networks, deep reinforcement learning, general neural networks and convolution neural networks used in fields of computer vision(OpenCV), speech recognition, natural language processing, machine translation, bioinformics of drugs, treatment, images analysis, material testing and board game programs, in which it produces more complex results and in some cases surpasses the performance of human professionals. Synthetic sensory networks (ANNs) are promoted by the processing of information and communication nodes distributed across biological systems. Deep learning refers to the number of layers in which data is converted.

The deep learning trains various important nonlinear features from the given samples. This architecture is made to prediction previously unseen data or samples. In deep learning architecture, we collected images from different sources known as input and generate the result i.e., output. This architecture of highly depends on CNN network. All the aspects of deep learning process are described below.

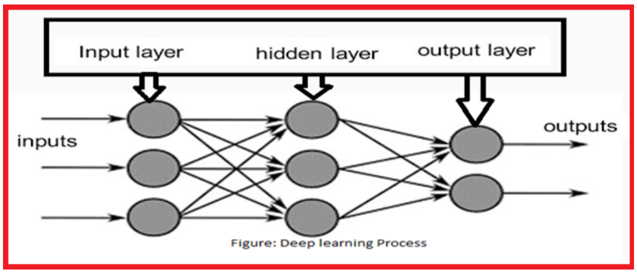


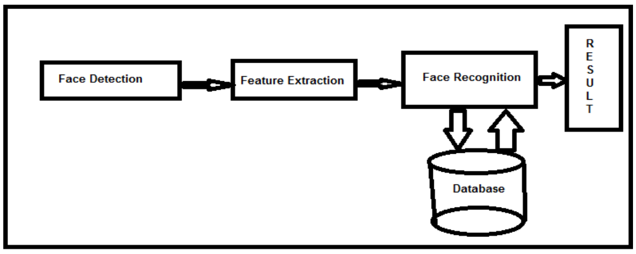
Figure: Deep learning Process

METHODOLOGY: **Dataset Collection**: Sample or Dataset collected from different sources (kaggle repository) and are prepared for training and testing the model for its analysis. Total collections of data or sample are 687 images of people with masks and 481 images of people without a mask. The database is categorized as training and test of dataset. In order to train effectively and efficiently, we have considered 80% of the total image as a training database and 20% of the total image as a test data set to assess predictive accuracy. For simplicity, the images in our training data collection are divided into two categories such as "mask" and "without mask".

Detect face masks: The default OpenCV module model was used to find the face followed to train the Keras model to identify the face mask.

Detecting the person without mask: The OpenCV model was trained to identify the names of people who did not wear masks by transferring them to the website.

Sending the message or e-mail: The program is designed to send an email to a person who is not wearing a mask using smtplib.



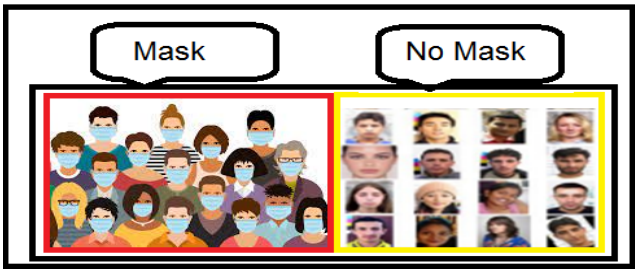


Figure:-
Data Collection from Dataset including faces without masks and with masks

Deployment Model with Implementation:
Learned System or Trained model is deployed a framework using OpenCV, Tensor Flow etc. Packages or deployment model is applied on the real time video frames or images captured using CCTV camera or webcam to detect people in the frame wearing mask or without mask.

There are four modules:

- **The Datasets Collecting**: We collect a number of data sets with and without face masks. We can get high accuracy depending on the collection of a number of images.
- **The Datasets Extracting**: We can extract feature the dataset using mobile net v2 of mask and no mask sets for mobile devices.
- **Models Training**: We will learn the model using OpenCV, keras software (python API library).
- **Facemask Detection**: We can find or detect pre-processing image and also detect via live image or video. If person wear mask, then it will permit them otherwise if not, it will give the alarm or buzzer to wear mask to prevent them from illegal activity or virus transmission.

7. RESULT: OUTPUT:

Result:Output

8. CONCLUSION

Due to its extensive use in various fields, facial recognition has received a lot of attention. In this paper work, different face recognition techniques are mentioned for their introductory level. One can use any of them according to your need and request. One can also work to improve the efficiency of the discussed technology and improve performance. With the development phase of the acquisition of face masks we can see that a person is wearing a face mask and allowing their entry can be a great help to the community. We can prevent people from transmitting the virus through this program. The accuracy of the model will be improved efficiency & achieve the goal and the optimization of the model is a continuous process and improves performance. So, we are providing building a highly accurate solution. Face detection or recognition is a beneficial to society as well as minor part having various a challenging phase in the field of image processing and computer vision technology.

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THE INFLUENCE OF HUMAN RESOURCE PRACTICES ON WORK PERFORMANCE OF WOMEN EMPLOYEES DURING TURBULENT TIME

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ABSTRACT

In this high speed of progress where things are extraordinary, work pressure is speeding up and changing uncertainity rate has become part of this business world, work execution has turned into the critical space of worry for representatives just as for associations. From the earliest starting point in the financial and business world Work execution has been recognized as the huge piece of the associations to acquire upper hand and predominant usefulness. Work execution isn't just a significant factor of examination for chiefs to review but at the same time is a significant factor to be self assessed by representatives for better execution. With expansion in number of female representatives with time understanding work execution has turned into a significant part for each director to contemplate up. Ladies have consistently showed extraordinary validity in accomplishing the difficulties and totally refuted every one of the fantasies about their being sub-par compared to men. Today, ladies appreciate advantaged position and their presentation is positioned as at the very least that of men. The rationale behind the examination paper was to decide the impact of human asset rehearses which essentially influence the work execution of ladies representatives in assistance industry and schooling industry. With the assistance of explanations identified with human asset rehearses which goes under practical region like work type, work liability, change the board and stress the executives. Study will likewise assist with featuring hypothetical perspectives and significant determinants of hr rehearses identified with work execution and its effect on ladies representatives. Besides suggestions were made by the review to further develop the work execution.

Keywords: Human Resource Practices, Work Performance, Women Employee, Service and Education Organizations.

1. INTRODUCTION

"Human Resource Management" term which itself talk about managing human resource in effective and efficient manner to meet up organization and individual goals, a function which directly talks about the management of one of the biggest assets of the organization – The Employees. Effective and productive employees are the biggest assets of any organization and are considered the backbone of it. The practices that help the organization to effectively manage such employees during the different phases of the employment comes under hrm function and to provide such hr practices which include recruitment, job description, work design etc are managed by the hr managers. Such practices need to be framed in such a model that it affects employee motivation and their behavior not only in their normal working schedule but also in the changing turbulent times.

According to Campbell Employee performance, in general, refers to behaviors that are relevant to organizational goals and that are under the control of individual employees. Previously, lot of emphasis and researches were conducted throughout the world regarding HRM practices and their affect on employee's performance. But recently say not more than a decade Sustainable HRM Practices have evolved. An innovative concept, which is still in the revolutionary stage and reproduces attempts to link sustainability to HRM.

Most recently Reporting on sustainability and HRM: A comparative study of sustainability reporting practices by the world's largest companies was recently presented by Ehnert et al. ,(2016) suggested the adaption of HRM strategies and practices that would work as catalyst and would enable the achievement of overall orgazational goals with a major impact on the overall working of the organization inside and outside and over long-term while controlling human behavior and their working in a sustainable manner. Such hr practices not only help the organzation to overcome their weakness but also support and motivate employees to perform in a better manner and effectively.

As we all know the importance of women employees is increasing in every sector of the corporate world. So, to understand such sustainable hr practices that can recognize women talent and those practices which can play a central role in support to improve their performances in times of a crisis this study was done.

This research is a study of affect of various statements of human resource practices (practices related to present time situations) on women employees' performance. HR Practices and employees' performance are studied from time to time everywhere but studies related to women are less. Yet, limited research investigated concrete practices. Taking up on this notion, this research project focuses on certain hr practices related statements, which are outlined through study of HRM literature as supportive to women employees' performance.

The statements are considered from few of the functions like job design, work management and stress management that showed a paradigm shifts in the work performance of the women employees. Companies are increasingly recognizing the talent of women and placing them in a required position. Earlier, women were risk-averse but with changing times they are becoming risk-takers as men and focusing on long-term interests of the company.

2. LITERATURE REVIEW

Understanding Human Resource Practices, Employee Performance and Work Performnace in Turbulent times.

Human resource practices and procedures are always great research supportives for the practitioners, researchers and policy makers to understand various processes related to development and understanding human behaviour towards personal as well as organization growth. Much has been written in various fields like psychology, social behavioural studies, hr researches and presently in emerging fields like SHRM and employee and organizational psychogy related to relationship between employee performance and job performance.

(Beijer et al., 2019) through their study showed that there is 40% increase in the studies related to the relationship development between hr practices and performance of the employees in the last 5years. (Wang et al., 2020) further stated that such researches have resulted in a wide range of conceptual models' developments in which employee perceptions of HR practices have been researched related to various fields like employees' perception about the hr practices and policies and how their behaviour is influenced and affected.

Employee performance both functional and behavioural is related to human resource policies and practices. Boxwell and Machy (2019) showed the contribution of the hr practices in shaping the perceptions and attitude of the workers regarding organization and its policies and practices.

Employees of the organizations are interested in the human resource policies and practices because they are directly influenced with them. Hr practices help in shaping the attitude and behavior of the employees positively or negatively. A study by Convay E(2014) showed emploees perception regarding hr practices and performance. He showed employees who are positive towards the practices are high in performance level and have a positive attitude towards organizational gaols and achievements. There participation level, self interestand attitude towards attainment of self goal and organizational goals are higher than the ones who are not satisfied with the practices.

Employee's performance is always related to its Work performance. As stated by (Jamal, 2007) Job performance is the outcome of employees based on organizational policies, practices and resources in normal framework and constrains. Work performance include different factors such management communication regarding policies, goals etc to employees and managers, personal discipline, individual or team performances, job proficiency etc. Although these factors cannot be fitted for every job but they can evaluate work performance of the employees.

One of the Empirical studies by (Hochwarter et al., 2014) evaluated the impacts of hr practices, job satisfaction and job motivation on work performance whereby tried to undermine the effects on employee's performance and tried connect a link between each of these variables and work performance based on female employees. Most of the studies showed positive effects of hrpractices in delivering prompt job performance among employees in various industry.

3. OBJECTIVES

- To find the specific statements related to human resource practices which effect women employee performance in service and education sector.
- To check out correlation between hr practices and women employee performance.
- To know the cause-and-effect relationship between hr practices and women employee performance.

Formulation of Hypothesis.

H0: The assertions of hr rehearses contribute emphatically to ladies' representative execution.

4. RESEARCH METHODOLOGY

The complete respondents reached were 120 and the objective example was 110. The review was led by consolidating auxiliary also essential information which was assessed through a poll. The survey was given to the chose female workers of bank and to the educators of school and it comprised two sections. Section one was identified with segment factors and section two covered the assertions identified with hr practices and worker execution. Optional information helped in presentation and writing survey and furthermore assisted with coming to the dependability of the example gathered and considered.

5. DATA COLLECTION TECHNIQUE

For the review respondents chose were just females from various levels of the help business and training area who have some authority towards dynamic. 110 female representatives were chosen from both the areas. The age stretch was between 21-57 years of age and complete working experience considered was more than 6months. The review region was Kanpur city.

For the review reason the instrument utilized is survey. For decsriptive review the scientist utilized essential information. Essential information was gotten through a semi-organized poll. The surveys were managed to the chose representative and are filled by respondents under the oversight of specialist. Additionally, not many of the respondents addressed the inquiry explanations by means of telephone and web.

6. DATA ANALYSIS

After the assortment of information, first and foremost it was checked for dependability of reactions. SPSS was utilized for handling and dissecting the information.

Cronback alpha test was finished. **Results and discussions**

Table 1: Descriptive and Demographic Analysis

Items	Labels		Total N=110	Percentages 100%
Age	A	21-30years	38	34.54
	b	31-40years	35	31.81
	c	41-50years	25	22.72
	d	51-60years	12	10.90
Educational Qualification	a	Graduate	14	12.72
	b	Post Graduate	40	36.36
	c	Professionals	56	50.90
Types of Industry	a	Public & private banks	48	43.63
	b	Private & public schools	62	56.36
Years of Experience	a	0-3years	12	10.90
	b	4-7years	33	30.00
	c	8-11years	46	41.81
	d	11years & above	19	17.27
Income	a	Below 20000	12	10.90
	b	20000-30000	36	32.72
	c	30000-50000	48	43.63
	d	Above 50000	14	12.72

Descriptive Analysis

In order to find the affect of Hr practices on women employees' performance 8 statements related to various hr practices were framed.

Table 2: shows the mean and standard deviation of the variables

Descriptive Statistics				
		Mean	Std. Deviation	N
Human Resource Policies		3.5273	.53002	110
a	I experience a reduction in my working hours.	3.09	.610	110
b	I experience a change in how I do my job.	3.51	.628	110
c	Management communicated clearly and adequately	3.58	.661	110
d	I experience a change in the type of my work (e.g. your tasks).	3.32	.574	110
e	I am consulted about any changes concerning my job responsibilities.	3.17	.565	110
f	I have sufficient flexibility in my work for me to meet my other responsibilities at home	3.26	.534	110
g	I am satisfied from my curent salary (revised during covid)	3.20	.509	110

The mean of all statement lies between 3-4 of the likert scale. Statement No. g "I experience a reduction in my working hours" has the lowest mean value 3.09 which mean that the lowest percentage of respondents agree with the statement and most of them are neutral about it. Statement No. c "Management communicated clearly and adequately" has the highest mean value of 3.58 which states that most of the respondents are satisfied from the support management show towards communicating the situational crisis thus it shows that all the respondents agree with the statement. So, all mean value lies between 3 and 4 which explains that all the respondents agree with all the statements.

Hypothesis testing

H0: The statements of hr practices contributes positively to women employee performance.

Table 3: Correlation

Women Employee Performance Statements	I experience a reduction in my working hours.	I experience a change in how I do my job.	Management communicated clearly and adequately	I experience a change in the type of my work (e.g., your tasks).
Job Satisfaction	.462	.419	.442	.410
Sig-1tailed	0.01	0.02	0.00	0.00
N	110	110	110	110

Women Employee Performance Statements	I am consulted about any changes concerning my job responsibilities	I have sufficient flexibility in my work for me to meet my other responsibilities at home	I am satisfied from my curent salary (revised during covid)
Job Satisfaction	.534	.492	.502

Sig-1tailed	0.01	0.02	0.02
N	110	110	110

Significance level 0.05 1-tailed.

From the above table it is clear that all the statements of hr practices are positively correlated with the women employee performance at 0.05% level of significance. The significance level of statements of hr practices are less than 0.05. So we accept the null hypothesis that the statements of hr practices and women employee performance are positively correlated. So we conclude that all statements are positively with performance some at high end and some at average end.

Table 4: Total Variance

Model Summary[b]				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.672[a]	.452	.449	.76753

Detailing of Speculation.

H0: The assertions of hr rehearses contribute decidedly to lady's worker execution.

7. EXAMINATION STRATEGY

The all-out respondents reached were 120 and the objective example was 110. The review was directed by consolidating auxiliary also essential information which was assessed through a survey. The poll was given to the chose female workers of bank and to the instructors of school and it comprised two sections. Section one was identified with segment factors and section two covered the assertions identified with hr practices and representative execution. Auxiliary information helped in presentation and writing survey and furthermore assisted with coming to the dependability of the example gathered and considered.

8. INFORMATION ASSORTMENT TECHNIQUE

For the review respondents chose were just females from various levels of the help business and instruction area who have some authority towards dynamic. 110 female representatives were chosen from both the areas. The age span was between 21-57 years of age and absolute working experience considered was more than 6months. The review region was Kanpur city.

For the review reason the device utilized is survey. For decsriptive review the analyst utilized essential information. Essential information was gotten through a semi-organized poll. The surveys were managed to the chose representative and are filled by respondents under the oversight of scientist. Besides not many of the respondents addressed the inquiry explanations through telephone and web.

9. INFORMATION EXAMINATION

After the assortment of information, right off the bat it was checked for unwavering quality of reactions. SPSS was utilized for handling and investigating the information. Cronback alpha test was finished.

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ROLE OF SOCIAL MEDIA IN MARKETING OF APPARELS

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ABSTRACT

With a population of 1.3 billion and rapid economic growth, India offers potentially the largest consumer market for the apparel industry which clothing expenditures are projected to reach 2.2 trillion in 2025. Also, Indian consumers are becoming interested in responsible products and they become more educated regarding brands and quality. Consequently, apparel companies strive to recognize the demand from consumers to be more environmentally friendly and socially responsible, which changes traditional business practices and even corporate culture to retain and expand their customer base. This has led many fashion brands to actively communicate information regarding product development procedures of environmentally sustainable apparel and ways in which to specifically reduce the usage of harmful chemicals in apparel production. However, currently few sustainability efforts in production or education of consumers are enforced in the Indian apparel industry. More importantly, with growing concerns regarding personal well-being and healthy lifestyles, Indian consumers are becoming more inclined to make responsible purchase decisions in order to fulfill self-interest and concerns but unfortunately not because of outside social or environmental issues. This brings about a fundamental question as to how Indian consumers can improve or change their purchase intention toward environmentally sustainable apparel (ESA) which would help to encourage apparel companies to evaluate their sustainability efforts and processes. Currently, social media is considered one of, if not the most powerful consumer marketing tool that is ubiquitously interwoven into consumers everyday lives, and that has changed how consumers and marketers communicate amongst one another. More particularly in the fashion industry, the spread of social media led fashion efforts has successfully become a powerful influencing method among consumers.

Keywords: Apparels, Clothing, Social Media.

1. INTRODUCTION

To connect with consumers and expand markets in India, numerous fashion retailers such as Zara, YOOX, and Topshop, and including luxury brands, such as Gucci, effectually utilize social media to their advantage. As the world's largest consumer market, India's fashion industry has employed social media in meaningful ways which in turn has unlocked new opportunities for fashion companies within the country. In contrast to western countries with Twitter, Facebook and Instagram, WeChat is the most popular social media platform in India, offering a number of functions, from enabling users to shop for things like stickers and games all the way to groceries.

Consequently, social media usage and greater exposure in daily life for Indian consumers plays a significant role in influencing consumption behavior, as well as learning important knowledge points regarding sustainability from others (peers) via social media. This phenomenon has led to substantial change in Indian consumer's consumption behavior more than any other market in similar countries Exponential growth in industrialization and progress of social media usage has significantly influenced attitudes and purchase behavior of Indian consumers. More predominantly, points out that environmentally sustainable apparel consumption in India attracts much attention worldwide from both policy makers and scholars. In this study, the term ESA is defined as apparel that is "produced and consumed through processes in which resources are not depleted or permanently damaged". Previously, numerous empirical studies on environmentally sustainable textile and apparel consumption have been investigated determining influences of purchasing ESA products, such as consumer knowledge, perceived consumer effectiveness, and perceived personal relevance among U.S. consumers. Consumer awareness of environmental knowledge and the contextual factors associated could determine green consumer behavior among consumers in India.

Therefore, how Indian consumers could be influenced by the role of social media platforms, specifically WeChat, on purchase intentions of environmentally sustainable apparel products has not been explored. Previous researchers investigated peer communication through social media websites among Indian consumers and found individual-level tie strength and group-level identification with the peer group significantly impacts product attitudes and purchase decisions. In this light, social media could potentially become an influential channel for ESA information delivery and exchange, ultimately impacting Indian consumers purchase intention toward ESA. Similarly, studies in western countries have confirmed young consumers are highly engaged in communicating environmental and sustainability issues via social media. Additionally, social media plays as an important role in educating and reaching users regarding environmental and sustainability practices among young consumers. Therefore, it is vital to investigate the impact of social media, especially WeChat on potentially increasing consumers' concern regarding ESA products and purchase intention toward ESA, specifically based on the unique cultural background and features of WeChat and the

Indian consume.

2. LITERATURE REVIEW

As social media notably changes Indian consumers' consumption behavior, understanding the influence of peer communication through social media pertaining to ESA is highly important. Thus, by tailoring research for ESA consumption behaviors and the impact of social media platform WeChat, this study aims to (1) explain the role of social media on ESA purchase intention by combining the theory of reasoned action and the prototype-willingness model, and; (2) empirically test the unique contribution of the influence of social media use on ESA purchase intention by utilizing hierarchical regression and structural equation modeling approach. The results of this research can not only provide managerial insights for the Indian apparel industry but also contribute theoretical background in a new perspective to understand the relationship of social media and ESA purchase intention.

Social media plays an important role in interpersonal communication which has greatly changed Indian consumers' daily life. As Facebook is banned in India, national social networking sites such as WeChat, Tecent, and Weibo have been attracting Indian users at a substantially fast pace. Since 2014, India's social network users has increased by more than 100 million users, and forecasts 579.98 million social network users in India by 2018. WeChat is the most influential social media in India, with monthly active users reaching up to 938 million in Q1 2017, representing a YoY growth of 28%. WeChat has changed "the new way to connect" and introduced "a way of life" by offering different functions such as WeChat pay and WeChat circle. Additionally, WeChat has driven information consumption to 174.3 billion $ (US$25.3 billion) in 2016, which is an increase of 26.2% from previous years. McKinsey iConsumer India 2016 reports that 31% of WeChat users initiated purchases on the platform from retailers' official channels (brands' public accounts) to user-generated content (such as Moments and chat groups) using links to other apps (Wang *et al.,* 2016). More importantly, apparel and personal products are reported to be the most popular among WeChat shoppers, accounting for approximately 25-30 % of online spending (Wang *et al.,* 2016). This increase provides considerable opportunities for fashion related brands and retailers to reach customers via WeChat through tactics like contextual targeting to display information about products at exact moments when consumers are reading about them. Due to this, numerous fashion retailers, such as Zara, YOOX, and Topshop, have promptly adopted WeChat in order to expand their markets in India ("India's fashion industry", 2014). Moreover, two thirds of luxury fashion brands are highly engaging consumers via WeChat, which were previously primarily used by news and media entities. As an early WeChat adopter, Gucci transitioned its subscription account into a new service account to better complement its basic content broadcasting activities. Accordingly, WeChat has been dominating Indian communications and is quickly evolving into a full-fledged mobile social-platform, including features such as mobile advertisements. Thus, WeChat provides a rapid but extensive way to reach out consumers, shifting advertising strategies into sustainable methods of online advantage for many fashion brands in India.

Globally, apparel companies increasingly recognize the demand from consumers to be more environmentally friendly and socially responsible. Consequently, these companies are responding to consumers' demands by changing traditional business practices and even corporate culture in order to retain and expand their customer base. In order to connect and provide better insights regarding ESA, many global brands are actively communicating ESA product development strategies and transparent information regarding business practices to consumers (Reiter and Kozar, 2016). This has resulted in more studies looking to investigate green consumption in India (Chan, 2001). The theory of reasoned action (TRA) strives to understand how people consciously make actions and analyze the consequences to those actions before they decide to partake in a certain behavior by linking attitude, subjective norms (akin to perceived social pressure), behavioral intentions, and actual behavior in a fixed cause sequence. That is, TRA's central tenet emphasizes individuals' intention to engage in given behavior. In this regard, subjective norm plays an integral to specifically dealing with influence of the social environment on intentions and behavior. Previous studies have employed TRA to explore antecedents of using social media applications. Wang and Chou (2016) found that injunctive norms, descriptive norms, and social identity positively related to continued usage intention of mobile social networking applications by adapting TRA. In addition, subjective norm plays an important actor to influence behavioral intention in the context of Indian users' acceptance of instant messaging. Specifically, in the context of sustainable apparel consumption, a positive relationship between subjective norms and purchase intention has been found in numerous studies.

Based on the TRA model, researchers have investigated the role of attitude on purchase intention. The consumer attitude toward the retail environment could influence purchase decisions. Attitude is the strongest predictor for purchasing ESA. Social and sustainable constructs built around design were found to match consumer attitudes toward clothing attributes as well as individual values to create a sustainable ideal of one's self. Individual values and how consumers prioritized those values were of utmost importance when purchasing sustainable apparel among Danish consumers. Sustainable apparel purchases are based on consumer's values and ethics. For Indian consumers, the positive relationship among attitudes and ESA purchase intention. In addition, previous studies have found the relationship between attitude and subjective norm to be validated. Subjective norm was indirectly related to purchase intention toward green products among Indian consumers through attitude. However, few research has explored the mediation role of attitude among Indian consumers, especially regarding ESA consumption. Stronger effects of subjective norm in western cultures compared to nonwestern cultures have been found. This can be explained due to the collectivistic culture in the East, the mediated effect among attitude, subjective norm, and purchase intention might be different from those of the West. The Prototype-Willingness Model was used as the supplementary theory to discover the effect of social media on Indian consumers' purchase intention toward ESA. The prototype model relates to dual processing models that focuses on the cognitions that mediate the effects of environmental factors (peer use, stress, context) on behavior (Gerrard *et al.,* 2008).

3. CONCLUSION

Two assumptions of decision making are suggested as a) the reasoned path similar to TRA, which involves more analytic processing, and b) the social reaction path that involves more heuristic processing. That is, some behaviors can be intentional, but much of it is not; instead, it is a reaction to social situations. More generally, it also suggests that the prototype model would be particularly useful for examining both social influence and media effects. This explains that social influences such as social media and peer influence can be performed as social reaction path to behavior. Social media's influences on Indian consumers are far greater than any other countries' consumers. Indian consumers are inclined to purchase products with evidences of positivity via social media, especially if their friends on social media highly recommend and comment about it. That is, due to cultural influences, Indian consumers highly value relationships, social acceptance as well as consider more peer recommendations. The relationship between customers' trust in SNS, customers' trust in advertising information posted on the sites, and customers' purchase intentions by applying the TRA as a research framework. Although peers are widely acknowledged as critical forces affecting consumer socialization and attitude, influence of peers via social media for Indian consumers has received limited research attention.

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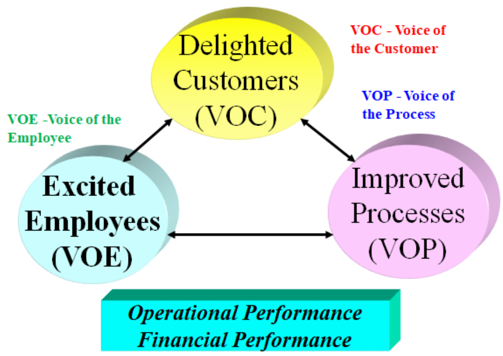
BUSINESS EXCELLENCE IN THE 21ST CENTURY

Dr. Manu K. Vora
Chairman & President, Business Excellence, Inc., USA

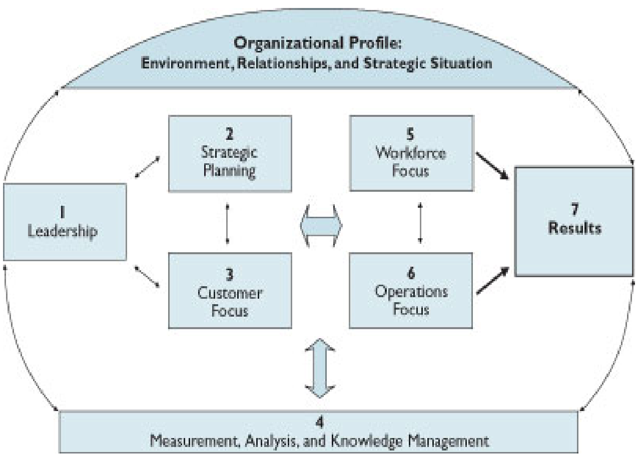
1. OUTLINE

- Business Excellence vis-à-vis Sustainable Organizational Performance Excellence using U.S. Baldrige Framework
- USA Baldrige Performance Excellence Framework:
  - Leadership
  - Strategic Planning
  - Customer Focus
  - Measurement, Analysis, and Knowledge Management
  - Workforce Focus
  - Operations Focus
  - Results
- Resources
- Summary

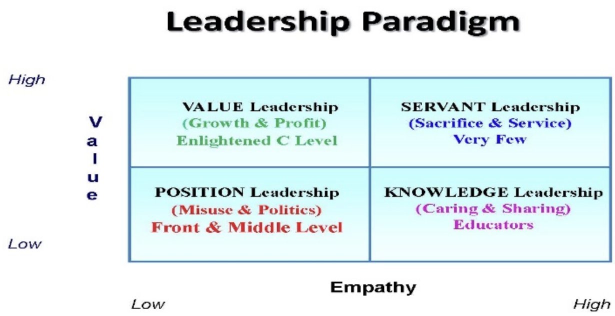
2. ORGANIZATIONAL PERFORMANCE EXCELLENCE



3. U. S. BALDRIGE CRITERIA FRAMEWORK: A SYSTEMS PERSPECTIVE (2020-2021)



4. LEADERSHIP PARADIGM MANU VORA (2014)

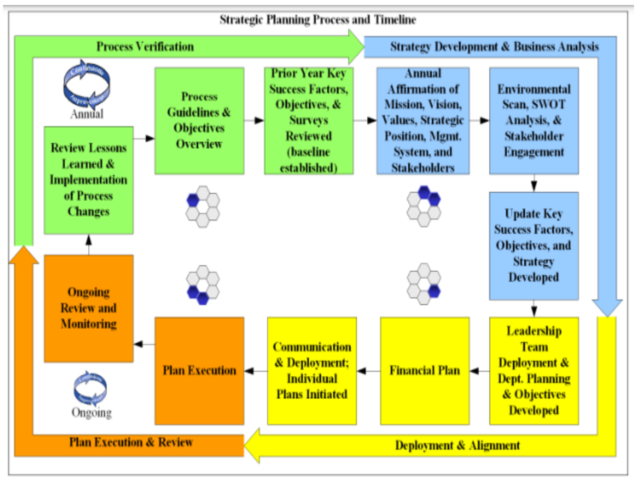


5. LEADERSHIP YOUTUBE

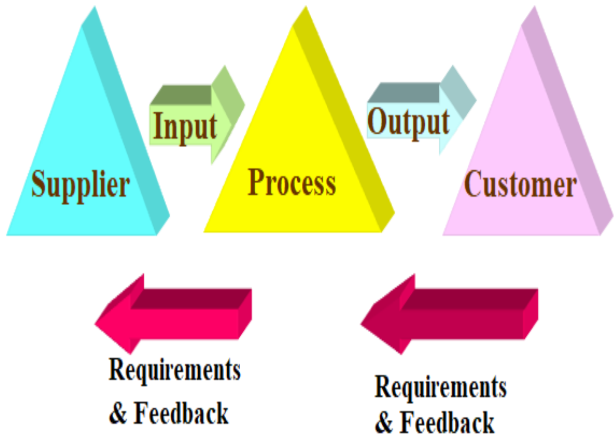
7 Leadership Principles Couched out of the Life of an Eagle

- https://www.youtube.com/watch?v=6rGpHG3WgoI

6. PRO-TEC COATING COMPANY (BALDRIGE WINNER, SMALL BUSINESS - 2007): STRATEGIC PLANNING

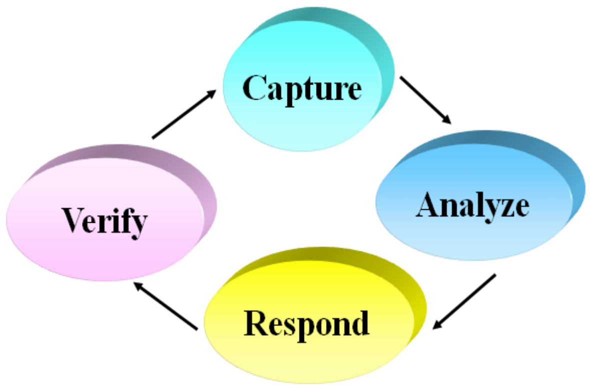


7. CUSTOMER-SUPPLIER RELATIONSHIP

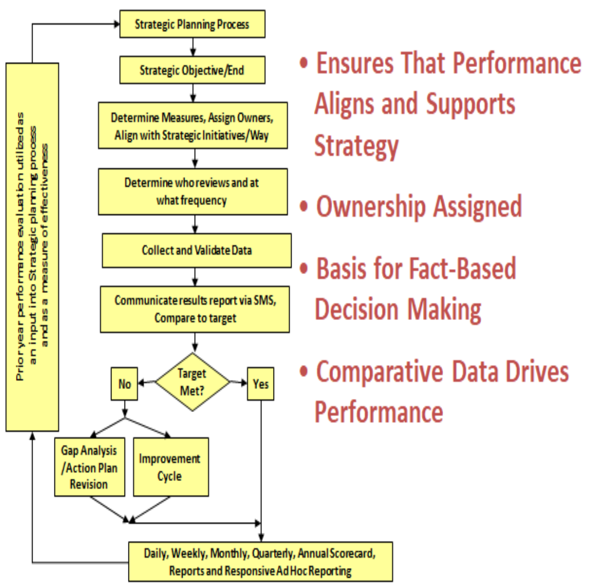


Source: AT&T PQMI, Issue 1.1, 1988.

8. VOC MODEL



9. ARDEC: MEASUREMENT, ANALYSIS, AND KNOWLEDGE MANAGEMENT

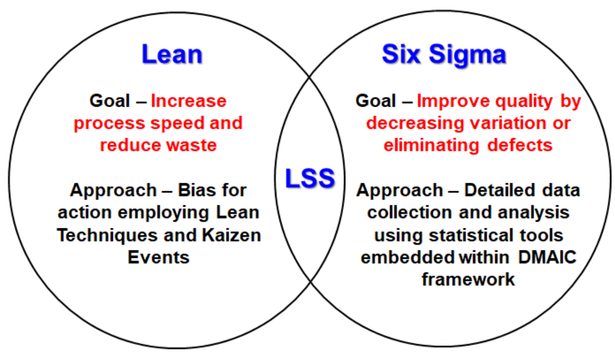


10. TALENT MANAGEMENT MODEL

Strength = Talent X Investment - (Strengths Finder 2.0, Tom Rath, 2007)

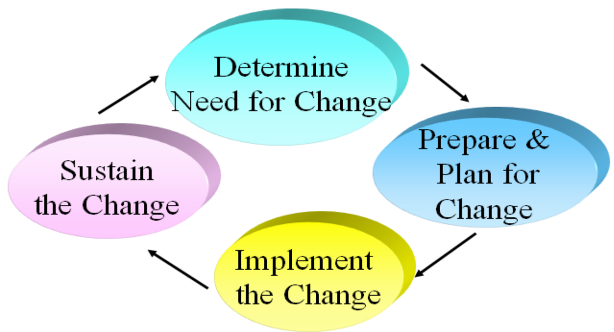
Strength – The ability to *consistently* provide near-perfect performance

11. LEAN AND SIX SIGMA



How Project Leaders Can Overcome Crisis of Silence - (Grenny et.al., MIT Sloan MR, Summer 2007)

Change Management Model



U.S. Baldrige Winners – Multiple Awards (Major Transformations: 1988-2020 –> 134 winners)

- **AT&T** – 3 (1992 – Mfg; 1992 – Service; 1994 – Service)
- **Cargill Corn Milling** – 3 (1999 – Small Bus., 2005 – Mfg., 2008 – Mfg.)
- **MESA** – 3 (2006 – Small Bus., 2012 – Small Bus., 2020 – Small Bus.)
- **Boeing** – 2 (1998 – Mfg.; 2003 – Service)
- **Dana Corporation –** 2 (1996 – Service; 2000 – Mfg.)
- **MEDRAD** – 2 (2003 – Mfg., 2010 – Mfg.)
- **Motorola** – 2 (1988 – Mfg.; 2002 – Mfg.)
- **North Mississippi Health Services** – 2 (2006 – HC; 2012 – HC)
- **Ritz Carlton** – 2 (1992 – Service; 1999 – Service)
- **Solectron Corporation** – 2 (1991 – Mfg.; 1997 – Mfg.)
- **South Central Foundation** – 2 (2011 – HC, 2017 – HC)
- **Texas Nameplate Company, Inc.** – 2 (1998 – Small Bus.; 2004 – Small Bus.)
- **Xerox –** 2 (1989 – Mfg.; 1997 – Service)
- Source: http://www.nist.gov/baldrige

12. SUMMARY

I. AMA:

- **Ability** determines what you are ***capable*** of doing
- **Motivation** determines ***how you do*** it
- **Attitude** determines ***how well you do*** it

II. 3Hs:

- **Heart** – Emotions
- **Head** – Ideas and Logic
- **Hands** – Implementation

III. Leadership - a Catalyst of Change:

- Leadership is all about ***Influencing, Igniting,*** and ***Inspiring*** ordinary people to do extraordinary things.

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SUSTAIN-O-PRENEURSHIP: A SUSTAINABLE PRACTICE IN BUSINESS

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ABSTRACT

Sustain - o - preneurship (entrepreneurship and innovation for sustainability) is a concept that has emerged from the earlier concept's social entrepreneurship and ecopreneurship, via sustainability entrepreneurship. The concept means to use creative business organizing to solve problems related to sustainability to create social and environmental sustainability as a strategic objective and purpose, at the same time respecting the boundaries set in order to maintain the life support systems in the process. In other words, it is a "business with a cause" - where the world problems are turned into business opportunities by deployment of sustainability innovations.

Keywords: Sustain - o - preneurship, Sustainability, Entrepreneurship.

1. INTRODUCTION

The definition first introduced in a conference article in 2006 (Abrahamsson, 2006):

- Deployment of sustainability innovations: Entrepreneurship and innovation for sustainability.
- Short for sustainability intra - / entrepreneurship.
- To focus on one or more (world / social / sustainability - related) problem (s), find / identify and / or invent a solution to the problem (s). With the (new alt. deep transformation of an old) mission/cause-oriented sustainability business adding ecological / economical / social values and gains, with a bias towards the intangible - through dematerialization / resocialization.

2. BACKGROUND

The business world has been nominated as a premier force for creating a sustainable world (Hart, 2005; Prahalad, 2004; Verma, 2021), especially when acting as a source of innovation and creativity - e. g. as Robinson (2004) puts it: "The private sector, as the chief engine of economic activity on the planet, and a major source for creativity, innovation and entrepreneurship, must be involved in trying to achieve sustainability."

The concept of Sustain - o - preneurship was first introduced as a term in 2000 (Schaltegger, 2000) where it was predominantly related to the proactive change management approaches associated. The phenomenon developed with publications in 2003 (Hockerts, 2003; Gerlach, 2003a; Gerlach, 2003b; Verma, 2021), and further evolved and was tentatively defined in 2006 by Anders Abrahamsson (Abrahamsson, 2006). This tentative definition was empirically tested in his Master thesis (Abrahamsson, 2007a), where the enactive research process (Johannisson, 2002; Johannisson, 2005; Verma, 2021) confirmed that the definition stood the test contrasting it towards the auto - ethnographical empirical material.

Primary associations with social entrepreneurship have also been establishing not-for-profit venturing and charities to innovatively address and solve social problems, whereas ecopreneurship has been primarily focused on solving environmental problems (Gerlach, 2003b).

3. MAIN FOCUS OF THE CHAPTER

Three main dimensions:

1. Sustain - o - preneurship consciously sets out to find and / or create innovations to solve sustainability - related problems

The first is oriented towards "why" - its purpose and motive. The outcome of diverse sources are summarized in this list of "sustainability - related problems", determined by the political action plan documented in Agenda 21 (UN, 1992a), the Millennium Declaration defining the Millennium Development Goals (UN, 2000), both agreed at the Millennium Summit in New York 2000, and the WSSD Plan of Implementation decided upon at the World Summit on Sustainable Development in Johannesburg 2002 (UN, 2002b). This list, derived and synthesized from these sources, lines up areas with associated problems to solve, goals to reach and values to create:

- Poverty
- Water and sanitation
- Health
- Education / illiteracy
- Sustainable production and consumption patterns
- Climate change and energy systems
- Chemicals
- Urbanization
- Ecosystems, biological diversity and land use
- Utilization of sea resources
- Food and agriculture
- Trade justice
- Social stability, democracy and good governance

- Peace and security

2. Sustain - o - preneurship means to get solutions to the market through creative organizing

It is of core importance to take the agenda as entrepreneurial challenges - to view problems as possibilities, obstacles as opportunities, and resistance as a resource, whatever the nature of the resistance. In this dimension there is nothing that really differs from the generic entrepreneurial description I subscribe to, but this comes natural since Sustain - o - preneurship (Johannisson, 2005).

3. Sustain - o - preneurship in process adds sustainability value with respect for life support systems

This awareness naturally and self - evidently makes the sustain - o - preneurial team maximize harmony with life support systems in the process. In short - living the generic definition of sustainable development as defined by WCED (UN, 1987), with respect to the needs of present and future stakeholders, keeping the holistic world-view and making it guide everyday (inter) action.

4. SOLUTIONS AND RECOMMENDATIONS

Facilitating factors for Sustain - o - preneurship, researching prospective tools, enablers and approaches. Appropriate areas and domains for Sustain - o - preneurship applied are recommended to be digested. Research methods recommended are Enactive Research (Johannisson, 2002; Johannisson, 2005; Verma, 2021) and Open Space Technology, since they add instant value among stakeholders, and in themselves naturally builds arenas where Sustain - o - preneurship evolves and proliferates. Further, with the purpose to collapse the degrees of separation in between the stakeholders of the sustain - o - preneurial concept - in idea, reflective practice and applied interaction.

5. FUTURE RESEARCH DIRECTIONS

Given its recent date, there is a need for future research, as mentioned above (Abrahamsson, 2007b; Abrahamsson, 2008; Verma, 2021). Main findings here are that conceptually, a deeper analysis is needed to be conducted with a nuanced and detailed taxonomy and framework created of sustainability innovations, the core of Sustain - o - preneurship, primarily by cataloguing and categorizing case stories. It is also needed to make a more detailed description to relate Sustain - o - preneurship to other concepts in the wider, general idea-sphere of the "business case of sustainability", in the contemporary plethora of "buzz - words", approaches, methods and acronyms that already exists - and in this context also to motivate why this concept adds value.

6. CONCLUSION

From this point of view, a very important distinction with the concept formed is claimed - sustainability entrepreneurship as in the concept Sustain - o - preneurship; the use of entrepreneurial activity in a determined action orientation towards solving a sustainability-related problem with (creative) business organizing as a means to solve the problem (s) - business with a cause.

7. KEY TERMS AND DEFINITIONS

- **Sustainability:** Capacity for human civilization and Earth's biosphere to co - exist.
- **Entrepreneurship:** The extraction or creation of value.
- **Sustain - o - preneurship**: Entrepreneurship and innovation for sustainability.

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CASHLESS ECONOMY: THE IMPACT OF DEMONETIZATION ON SMALL AND MEDIUM BUSINESSES WITH REFERENCE TO NASHIK DISTRICT

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ABSTRACT

Demonetization is an executive action by which a country declares the circulating currency of the same is no more a legal tender. In contradiction the demonetization declared on 8th November 2016 was different; firstly, the policy is adopted and declared by the prime minister and secondly it cost the drastic change in the economic activities of each and every citizen; by this action all the currencies of denomination of Rs500 and Rs1000 were declared as non-legal tender. Almost 86% of the currency in circulation was demonetized. This paper studies the impact of Demonetisation in small scale trading structure, in Nashik District and also details the crisis if any faced by small scale traders regarding demonetization.

Keywords: Cashless, Economy, Demonetization, Business, Small Business, Medium Business.

1. INTRODUCTION

The great impact of cashless Demonetization on small and medium Business in Nashik District with Society and Economy. The first impact shall be that Small and Medium Business will have Slow Down Business Activities. With that they will not be able to purchase luxurious things for Nashik peoples.

The impact of cashless Demonetization on small and medium Business in Nashik District. The governments initiative towards cashless economy triggers with Demonetisation of high denomination currencies. Cashless economy is a financial environment that minimizes the use of physical cash by providing alternative channels for making payments, and fosters a clean and digital economic culture. Demonetisation, for a while, slows down all economic activities and imputes to use digital mode for transactions. Stringent reactive policies are required to this segment for surviving in a cashless economy. Economic reform without considering Small and Medium Business will result negative impacts, it acts as a mediating role in economic growth. Currently the dealers and customers are adopting digital infrastructure and slowly it will create a digital economic culture.

Demonetisation, for a while, slows down all economic activities and imputes to use digital mode for transactions. The small and Medium Business prefer to do all its transactions with conventional mode; sudden move by the Demonetisation severely affected the Business Sector. Stringent reactive policies are required to this segment for surviving in a cashless economy. Economic reform without considering small and medium business sector will result negative impacts, it acts as a mediating role in economic growth. Currently the dealers and customers are adopting digital infrastructure and slowly it will create a digital economic culture.

This paper is organized in three sections. First section describes the concept and evolution of cashless economy in Nashik District Second section discusses the initiative for cashless economy in Nashik District and third section analyses the impact of cashless policy on the small and medium Business. The concluding part of this paper fortifies the sudden shift to a cashless economy which made a Most importance impact on small business and Medium Business with reference to Nashik District.

2. OBJECTIVES

- To Understand the Concept of Cashless Economy and evolution in Nashik District.
- To study the impact of demonetization on the Small and Medium Business in Nashik District.
- To determine possible implication of a cashless economy on Small and Medium Business in Nashik District and point out challenges its implication.

3. RESEARCH METHODOLOGY

The key intention of this paper is to analyse the impact of cashless set of idea on small and medium business in a happened changed economic challenge in Nashik District, so this study is purely based on secondary sources of data. Secondary data have been collected from different published sources such as magazines, journal, newspapers and relevant Website which have been consulted in order to conceptual cashless economy and its impact of demonetization on small and medium businesses in Nashik District.

4. CONCEPT OF CASHLESS ECONOMY

A cashless economy does not mean an economy without cash, but where the workings and transactions of the economy are done electronically. His payments and receipts. The means of adopting a cashless economy but also to give the right direction to the growth and development of the country's economy by reducing cash related corruption and attracting more foreign investors to the country. Digital transactions are traceable which ensures government taxable income, reducing the circulation of black money. The whole country is going through a process of modernization in money transactions. Big businesses are now accepting electronic payments to street vendors. As a changing economy in the world, India will be a milestone in moving towards cashless. This study is an attempt to analyze the operational impact of the cashless economy concept so far in the Indian scenario.

Cashless society is a financial condition in which financial transactions are made through the transfer of digital information between the parties to the transaction, rather than physical notes or coins. Cashless India aims to develop the Indian economy by ensuring greater security, anti-corruption and universal accessibility. The establishment of an embedded integrated electronic payment system may be aimed at making the dreams of the Indian economy a reality. Even a country like India, as one of the most populous countries, faces many hurdles which need to be achieved for significant economic growth such as illiteracy, bureaucracy, rejection of change etc.

5. INDIA'S MOVE TOWARDS CASHLESS ECONOMY

Cashless economy is not a sudden decision. The government approved a number of initiatives in February 2016 to promote digital payments and transition to a less cash economy. Prime Minister Narendra Modi in his May 2016 keynote address had appealed to the people to accept cashless transactions. He also mentioned mobile banking, internet banking, telephone banking, electronic cards, implants, point of sale (POS) for digital culture. Terminals, ATMs etc.

Many countries are now working for a cashless society; Sweden is becoming the first countries of the world deceive their citizens into a lucrative and horrible economic experiment for a cashless society. Sweden began its journey towards a cashless economy many years ago. Run a bus, buy a magazine or chewing gum, digital payment is accepted everywhere. Sweden is becoming the first country in the world to engage its citizens in a lucrative and terrifying economic experiment for a cashless society. Sweden began its journey towards a cashless economy many years ago. Drive the bus, shop monthly or chew Gum, digital payments are accepted everywhere. Countries like Norway, Denmark, Belgium, France, UK etc. also lined up for cashless society. Moving towards a cashless economy is not a one-day framework. This is the evolution with information and communication technology (ICT).With this in mind, the government had launched a major campaign for financial inclusion in terms of opening public money accounts, giving legal basis to Aadhaar, direct benefit transfer, introduction of GST, Rupee card and voluntary disclosure scheme for unaccounted money. On November 8, 2016, Rs.500 and Rs.1000 notes were canceled from circulation Transition towards a cashless economy. The economic downturn created by denomination has created many misconceptions about the new economy. This will be the result More serious on individuals who primarily earn and spend cash. Moving from a cash-based economy to a cashless economy will require concrete efforts. The cashless economy in the Indian context is the result of both a perennial problem in the financial system and the adoption of ICT in payments and settlements. In 2009, the Planning Commission estimated that only 27% of PDS spending reached the target low-income group. Clean and transparent business dealings Not only is it increasing tax collection, it is also cracking down on illegal practices such as shadow economy, money laundering and commissions in welfare schemes. Financial management costs will be minimal. In 2015, the RBI raised Rs. 27 billion on currency issuance and management. More about this source text Source text required for additional translation information Send feedback Side panels.

6. SMALL AND MEDIUM BUSINESS: AS A BALANCING ROLE IN ECONOMIC GROWTH IN NASHIK DISTRICT

The Small and Medium Business not only play a Extremely important role in providing employment opportunities at comparatively lower fund cost than large business but their are also helps in industrialization of rural and backward areas, reducing regional imbalances and assuring more equitable distribution of national income and wealth. The small and medium business in Nashik District can contribute more than the big businesses. The policy makers and researchers considered this Business essential for achieving targeted economic goal. The Small and Medium business has created well profile in the Nashik District.economy with 6 Lakes units, 3 lakes employment opportunities, product range consisting of more than 693 varieties, 25% of total manufacturing output and about 7% of export directly and indirectly. Its role is also noticed in mitigating economic inequality. It is a driving force for socioeconomic development. It is an acknowledged fact that small and Medium Business can help realize the target of the proposed manufacture policy for raising share of manufacture sector in GDP from 10% to 18% by the end of 2020. The government and policy makers started working on it, with new policies such as Make in India, Startup, Skill India, Zero Defect, etc. The government is giving high attention to protection and promotion of small and medium Business with policies and schemes. There is no universally accepted definition for Small and Medium Business.

7. IMPACT OF DEMONETIZATION ON SMALL AND MEDIUM BUSINESSES IN NASHIK DISTRICT

The small and medium-sized Business is a big Parts of the economy, contributing to eight percent of the GDP whilst employing more than 15 Lakes on year. Most Small and Medium Business are traditionally-operated, family-run businesses. Broadly, there are two types of players in the market in this segment. One, the businesses that were formed because their promoters saw the opportunity early on before anyone else could and went on to become successful businesses quickly.

While much attention has been focused on the manner in which demonetization has inconvenienced the general public, the sudden invalidation of 1% of Nashik District cash may create a short-to-medium-term impact that is brutal for small businesses. The importance of Small, and Medium Business cannot be overstated. Where GDP growth moderation due to demonetization is estimated at 60bps at the lower end to as much as 30bps at the higher end, it can be presumed that the impact on small and Medium Business in Nashik District will be higher than the rest of the economy due to their greater dependence on hard cash. Their virtuous cash cycle begins from an expense base that is almost exclusively cash-based. This then incentive the business to earn revenues in cash as well.

Demonetization is not a any type of strike but it is carpet bombing. It impacts everyone. Changing not only takes time, it also slow-slow down the spending process as everyone tries to protect the newly acquired currency to secure them from the uncertain future.

In case of Small and Medium Business, most will be unsure of payments coming from customers for some time; this as liquidity in the form of unaccounted currency has dried up. If customers don't pay, Small and Medium Business will protect what they have and that will mean they purchase less and produce less. Purchasing less will mean further slowdown for the people who provide them with raw material and producing less will mean shortage of supply leading to inflation on what is available.

- Salient use of collected money in banks on development of infrastructure that brings benefits to people very Fast. We will see money invested in aspects that bring fast results for all classes. The current change has got fast pain with a promise of long-term gain but we have to remember that a large section of our society will need quick gains to survive before they can enjoy the long-term benefits.
- Small and Medium Business will invest in self-development and improvement in terms of technology, infrastructure and training to self-utilize the increased profitability with unaccounted income now becoming a part of the books that are taxable.
- Small and Medium Business now by design will have two alternatives. Pay tax or spend on doing more for scaling up and this will have a Scrolled effect on the overall improvement and development in the economy. There are loads of positive and negative impacts of the current move. No one currently can be sure of the future and this uncertain environment is certainly not good. Outcomes in uncertainty depend on the mindset and, currently, whilst people are taking it positively, they definitely are starting to envision possible pitfalls too if measures are not taken at the right time. Communication will be the key to ensure stability. And, while I am impressed with the brave step taken by the prime minister, I am also concerned about the Vast task ahead of him to make this a success, because in my mind the war against black money has not started yet. Demonetization is only a war cry that declares the start of a war.

8. IMPLICATION OF A CASHLESS ECONOMY ON SMALL AND MEDIUM BUSINESS IN NASHIK DISTRICT AND POINT OUT CHALLENGES ITS IMPLICATION

Small and Medium Business in Nashik District represent a major part of demography and geography, even a small change in economy Importantly affects the segment. To achieve targeted economic development, small and medium business segment should develop, improve and support accordingly. Hence, there is a proper need to understand the indication of government policies, such as cashless policy, about them. a further step towards cashless economy, it is significantly to know how the cashless policy is impressed in the small and medium business in Nashik District. What are the supports needed to survive and grow in the changed environment? Cash is a legal tender and everyone can handle it easily. Demonetisation hit Defenceless all sectors in Small and Medium Business. The electronic money scheme is often linked to a bank account, and a good number of consumers and small and medium business are unbaked. They may also not be literate to deal the technology. It is good to know how payments are made by these people and what changes are needed to survive.

Challenge implantation in cashless economy has given short-term struggle in the whole economy, but it identified some positive Points from various elements. It is very importance to implement the policy without hampering their existence. For a successful implementation of the cashless policy among small and medium Business, the following some measures should be taken into consideration:

- **Education:** Poor Triggering is the major challenge in a Nashik District where the literacy rate still remains marginal. There is a need to populace up to the grass root level on the importance of policy.
- **Infrastructure:** Cultivating a fully digital culture requires huge investment in information and communication technology (ICT); digitally literate society are able to use information and technology. Actively address cyber-Susceptivity, the threat of attack and misuse.
- **Security:** The safety and security of funds should be guaranteed. There should be stringent legal framework to handle cases of fraud and other issues arising from payment.
- **Awareness:** Trend, changes and updates in technology should be communicated to the users when necessary. This will enable them to make good

use of the system.

- **Internet Connection:** Basic requirement of cashless economy and digital payment is Internet facility and sufficient Wi-Fi.
- **Consultancy Cells:** The government should start free consultancy services with collaboration of higher education institutions, universities and NGOs where the general public can get assistance for this shift.

9. FINDINGS

- Participants in the parallel will have to reconsider wholesale for denomination economy businesses need to think about first entering the banking system, second Digitizing and the third complete announcement. Methods and mindsets will require a large reset. This happens because the move is just a few months ahead of schedule Implementation of GST.
- Reducing legal, competitive business by cash at low-cost transactions may end or decrease. This will lead to an overall improvement Competitiveness of Small and Medium Business applies generally. Activities with organized systems and the planning process will transition quickly by embodying itself. The benefit, thus, is that it contributes near about 2% or more to GDP High.
- On the capital front, many Small and Medium Business have previously had difficulties in credit valuation. Denomination due to large scale unaccounted transactions. Once the initials, the setback phase is over and businesses simplify their processes and accounting, they will be able to enter the credit market more efficiently and at a better price reducing the value of their funds.
- On the labour front there may be some longer-term pain. Smaller and Medium businesses are dependent on migrant labour, which is frequently moving across Nashik District.The lack of income in the immediate after-effects of demonetization will force them out, thus hurting the business continuity and adding to hiring and training costs.

10. CONCLUSION

This discussion started with the trend and concept of a cashless economy globally, followed by India's and Nashik District endeavour towards cashless economy. There is a awesome interest among policy makers, academicians, and Business to explore the possibility of moving towards a cashless economy.

Demonetization has already affected the small and medium Business and there are also the bulk of transactions in Small and Medium Business in Nashik District are cash-based, a liquidity crunch will likely cause a slowdown in economic activity and however, there is reason for optimism. The inflow of deposits should logically allow for lower interest rates, spurring investment in both of Business. Further, the shift towards cashless transactions will encourage registration among such enterprises and allow them to benefit from central and state schemes and incentives. The access to low cost capital should also improve if there is a most importance shift to a cashless economy.

Good action plans can help prepare the worst, through policies, financial infrastructure development and grand. Mission for the awareness and acceptance of the cashless economic system with Nashik District.

A cashless economy affected the operation of small and Medium Business due to reduced ability to deal with digital cash, but the positive reaction of Businessman eases the shift to digital transactions. The small and medium Business are the Backbone of the economy and run with some limitations. Any move without considering this Part will result in a negative impact. Stakeholders should consult on how the policy affects the economy, particularly small and medium Business and also owners should not be left out. They should be encouraged by making the necessary infrastructure available and affordable. They should be fully empowered and educated to adopt technology associated with the policy and work with it effectively and Policy makers should take stringent plans for survival of this section while reforming economic sector further.

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REAL LIFE USE OF GAME PLAY

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ABSTRACT

Game playing is a critical part of Artificial Intelligence, that helped it develop further, examples being Turing, design for minimax algorithm to play Chess. Artificial intelligence in video games was introduced with early titles on the platform provided by Atari, later followed by NES and Sega, and has come a long way since. Games, or Video Game Software are important for AI because they are designed to challenge a person's cognitive abilities, and are thus uniquely relevant benchmark problems. They are also uniquely convenient benchmark problems, as they allow unbiased comparison between algorithms, as well as they can be executed much faster than real-time. It become expected of developers to create flawless AI which is as human-like as possible. Neural Networks are implementing usage of AI systems to design smarter systems and are being used in ways such fashion as majority of Open AI does with their game-playing bots. Many videos game-Neural Networks use reinforce - learning for training as it provides more effective training for larger platform video games where the number of possible positions and combinations of game mechanics possible are far bigger. This paper provides intense research of these core fields of as they are applied within a video game context, as well as its real-life applications, discussing out of box application of game play algorithms, with general video game playing algorithms being important for procedural content generation and AI-assisted design tools

Keywords: Minimax Algorithm, Cognitive Abilities, Neural Networks, Algorithms.

1. INTRODUCTION

Game software have been termed as the “Human-level AI’s Killer Application” (Laird & van Lent 2000). State-of-the-art game software recreate real-life scenarios with surprising level of detail. These environments are usually populated with many characters (allies or enemies that depending on the circumstances are either manipulated directly in real time by real life human beings, or are NPC’s, Non-Playable Characters that require human-level intelligence and show believable behaviors).

Statistically even if there have been great advances in computer graphics, animation and audio for games, most of the games contain very basic artificial intelligence (AI) techniques, if any. As a result, the whole atmosphere created by the game can be broken when the game and characters situated within it behave in a non-believable manner, resulting in a potentially impaired player experience. On other hand, creating complex experiences requires a great deal of engineering effort on the part of game developers. (Some common examples of limitations of a poorly designed AI, is NPC’s trying to walk inside a wall, due to having no bounce algorithm to detect solid objects, jumping of a high place due to failure of detection of where building ends, as much as this is good for hilarity, it results in a poor experience for players, and poorer experience for utilizing the formulae in real life, either a weapon design, or for military simulation for training purposes).

Creation of AI designs for video game software would impact in several other areas outside the game industry. Autonomous characters can be used in any anthropomorphic interface, (Boston Dynamics managing to implement a realistic canine algorithm on a quadruple body to replicate behavior and mannerism of a real life dog, termed as “Spot”. Spot was made available for general public to buy on June 16, 2020 by Boston Dynamics, developing it further, we may be able to put them to use as K-9 Force, a branch of military and police works that utilizes dogs, for their speed, power and abilities, other than for search and track missions).

They have already been implemented in a variety of fields including as instruction agents in training environments, as presentation agents for demonstrating slide presentations, or as guide agents on websites. (Generally referred to as bots) plots can be employed in education and training environments, even at education facilities. There is a great interest in applications from game design to the design of “serious games” for use in military and corporate applications, based on the simulation, a good example of this is Airplane simulation, that can reduce life threat and mortality rate of pilots. In recent years, people who have been intrigued in applying AI techniques to video games has seen a notable increase (workshops dedicated to game AI in recent conferences such as ICCBR 2005 and IJCAI 2005 are excellent example of this).

The vast majority of this work, however, focuses on small sub problems within a computer game (small tactical-level problems, coordination, path planning, aim sharpening etc.) or is not situated within a real game. Despite the fact this research may provides interesting solutions and concepts, it cannot be directly applied by computer game companies. As computer games are being developed by increasingly large project teams with increasingly constricted deadlines, game developers do not have the necessary cycles needed to try and transition these techniques to their own games. One of the long-term aim of this paper is to minimize the transition effort needed in implementation of such AI techniques in the real games.

Further, our goal should be to ease the effort in development of more complex AI for computer games to make them more adaptive and appealing to the player, and audience.

The research in this paper is one of first step towards this objective. This research focuses on the development of learning, reasoning and implementing techniques in the context of current state-of-the-art computer games. Usage of such techniques can help non-AI experts to understand define behaviors for characters that can then be adapted to different situations and individual players, thanks to usage of the layman terms, thereby reducing the development effort required to address all possible fail safe in a complex game. Games that can be considered adaptive are most beautiful example of this, games that can adapt themselves to unforeseen situations, and learn from a circumstance they have been put in.

Adaptive games can:

- Improvise on the player's experience, since an adaptive game can adapt to each individual player to better fit his play style and goals.
- Minimize he development effort, since if a game is able to adapt itself, the developers require less effort trying to foresee all possible situations.

The remainder of the paper is categorized as such

First, It presents a brief analysis of the requirements of different game genres from perspective of Artificial Intelligence. Following this, I'll identify a set of challenges that computer games present for the AI community. Next, it will discuss three approaches for adaptive games: automatic behavior adaptation for believable characters, drama management and user modeling for interactive stories, and strategic behavior planning for real-time strategy games. (I am emphasizing the term real time strategy, as while the story line or theme of turned based strategy games, is irrelevant to how their program is implemented outside its common field, in real life scenarios, an A.I simply does not have factors that can meet requirement that are needed by turn based RPG stylized game, despite their extremely well developed A.I that is highly interactive in its nature) it finishes with conclusions and future research directions.

2. REQUIREMENTS FOR GAME AI

Different genres of video games and the AI challenges that each predicted, in their, they can be categorized as following.

Action (fps), role playing (rpg), strategy games, adventure, god games, individual and team sports games. In addition to those genres, we can consider two additional categories, educational games as well as interactive drama (visual novels). Interactive dramas have a strong plot behind them that the author wants to communicate to the player, but where the player may have a strong influence on the plot. The core change in the classical "adventure" genre is that adventures have a Pre written plot, while interactive dramas are more open-ended and adapt to the player interaction as the story progresses further. Visual Novel or interactive drama has also had propositions of being turned into 3D password, which can easily avoid brute force security breach, being a fantastic form of real life game theory implementation, games also have an additional rhetorical goal of teaching particular content to the player. By analyzing all of the possible applications of Video game AI to different applications in real life scenarios and other game genres.

We can safely identify two different levels at which AI can be applied:

- Individual characters AI, with the goal of producing more intelligent or believable behaviors that can make it easier to believe the said NPC is a real life person.
- A global AI that's purpose is to look after the interaction of player, influencing the directions that the game is taking. (Example morale meter, where actions of player have direct consequences).

Thus, we can talk about character-level AI and game-level AI (the second being referred often as Drama Manager, Director or both.) Varying Implementations and game genres require a different mix of both AIs. For instance, real time strategy gaming software's rely on a game-level A.I to control the units, while the individual unit behaviors can be scripted. Role playing games (often termed as RPG) on the other hand, require believable character-level AI to provide an interesting game feel. Interactive dramas requires a mixture of both kinds of AI: individual non playable characters that are immersive and a drama manager A.I core that leads the plot by guiding the individual characters to take actions that can make the story advance further in directions developer wants.

3. CHALLENGES IN COMPUTER GAME AI

These can be considered one of the key challenges that people face mwhen developing artificial intelligence for computer games. This list is not exhaustive, but is intended to give a glance at issues that real computer games pose to the AI community.

- Space for Complex decision: most computer games involve complex strategic (real time strategy games) or believable behaviors (interactive dramas). Learning techniques or higher level representations are required to deal with such complex games. Normally games use personally designed strategies coded by the game developers, but these tend to get repetitive fast, letting players easily find a pattern in it, and players easily find loop holes and exploit them (resulting in players managing to speed run the game, which is not possible in reality).
- Knowledge engineering: Despite assuming, behavior or strategies are personally designed, authoring these behavior sets in a game requires a huge contribution on part of human engineering effort. Game developers encode knowledge they have about a domain to as much degree as possible (to achieve believable human

behavior) in some sort of behavior language.

- Authoring support: personally designed behavior pattern software code in a complex programming language, prone to human errors. These behavior errors can either be in the form of program "bugs" or simply not achieving the desired result. (Missing the ending or route the developer intended) the industry is in dire need to support story authors, who are typically not artificial intelligence experts, to author behaviors in a computer programming language, by providing familiarity.
- Unanticipated circumstances: it is not possible to anticipate all possible player strategies that can encountered during play itself. It makes it extremely hard to create believable behavior patterns that react in an appropriate manner to these unforeseen circumstances and player actions.
- Player-specific adaptation: different players may enjoy different strategies to fight against (in the case of real time strategy games), or different way of story play (in Visual Novels or RPG's), different kinds of character behaviors and interactions, different types of story development, or different problems (in educations games). As game designers begin to start user modeling capabilities, the AI strategy and behavior must be adaptable based on user model of the game and player.
- Replay Value: a player might get bored of seeing the same strategies and behaviors again and again repeatedly. Although simple variability can be easily achieved through stochastic selection of behaviors (which can be documented over time with help of authors, whose strong suit is character creation, rather than sheer imitation of a real life person) or strategies thanks to a large repository, this increases the authoring burden. Furthermore, random selection begs the question of true intrigue.

Thus, the game and developers both have to understand that the objectives are not being met on a per-use basis, and adapt accordingly to the situation. For example, a particular user may be getting bored, or not learning the intended lesson that the author and developers may have wanted, this in real life applications such as any form of education or training simulation is counter productive.

4. BEHAVIOR MODIFICATION FOR BELIEVABLE CHARACTERS AI

In interactive games, characters typically have their own personalities, affecting their tendency to interact with the game (and the player). Developers normally design such characters by scripts that describe the characters' reaction to all possible Scenarios within the game world. This method of authoring characters presents several difficulties. First, when authoring a character's behavior set, it is hard to imagine and plan for all possible scenarios it might encounter.

Given the complex, dynamic nature of game worlds, and particularly open world games, where players are often free to interact with most A.I coded NPC's of the game, author specifies personality-specific limitations on behavior of a character by specifying nominal bounds for emotion values. Emotion values can be described as certain set of actions a NPC is coded to take while other set of action it is meant to avoid, depending or arch type, this is important, for example making a bad A.I for a terrorist character in military personnel training, may completely ruin the purpose of training simulation. Such as crossing the boundaries set by the personality of said character, according to author of the said game's narrative team, this tells the reasoning layer that the current behavior library is creating inappropriate long-term behavior and that it should try to assign blame and change its behavior. At playtime or runtime, a character's emotional state is checked when certain behaviors patterns annotated by the author, succeed or fail. At runtime, when the game is being played system will trace out when the personality boundary set by the author of the story, has been breached. Once personality breach has been traced the system uses the patterns to explain the behavior's role in violation of set boundaries.

Future Work In order to increase the transformative ability of our system, we can start by adding additional operators has multiple effects on the system itself. First, as the numbers increase, the time required to reason about them increases as well. On second hand, operators for complex situations may have a lesser success rate, requiring us to concentrate the search through behavior transformative space. In the process it becomes necessary for the reasoning layer to learn which operators are best implemented in which circumstances, so fewer operators are tried. These elements of the problem turn a case-based approach, a method of spedup learning process, and very attractive. Its a process of integrating a case-based reason implementation towards the system.

5. CONCLUSION

In this paper, we discussed a set of challenges that video games pose to the AI community. Developing such techniques and algorithms that can deal with the complexity of games is a huge feat, but it has potential to have big impact in several areas including entertainment, education and training. The main goal is to develop AI techniques that can ease the effort of incorporating AI in games to make them more adaptive as well as appealing to the player. Such games are called adaptive games.

It can be believed that computer game AI may be the next revolution in the gaming industry, specially after advances in the audio, visual & the networking capabilities, next step in computer games is to induce advanced AI techniques that can reach the goal of having truly adaptive games, increasing the level of believability and immersion. To achieve this goal, the gaming community needs new techniques, approaches and tools that allow them to specify, develop, and incorporate AI in their games in friendlier fashion.

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ADAPTIVENESS OF GI TAGGED HANDICRAFTS FROM KERALA TO THE NEW NORMAL CREATED BY THE PANDEMIC

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ABSTRACT

The primary goal of the geographical indication (GI) tags is to revive the products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. Currently, Kerala holds GI tags for 29 products and 3 logos. Out of the 29 GI registered products 12 are handicrafts. The foreign tourists were the largest buyers of these GI tagged products. The tourism sector was severely struck by the back-to-back floods in 2018 and 2019. But before it could completely revive came the pandemic. Now the tourism sector of the state falls into the bottom pit and the auxiliary products to the tourism sector also face a decline in sales.

The pandemic has redefined the term normal, and it is our responsibility to make efforts to fit into the new normality of life. In the current scenario, most of the customers depend on online shopping. And even the popularity of direct selling through social media also increased. Now, apps like Meesho have opened a virtual environment where the manufacturer and consumer can directly interact and do business. Many initiatives were taken by the authorities to increase sales in the domestic market. Some of the GI tagged products are sold through the websites like https://www.gitagged.com/. But still, the full potential of online sales and direct sales are yet to be tapped.

The objective of the study is to understand the impact of the pandemic on the GI tagged products and its challenges and opportunities in the present market conditions.

Keywords: Geographical Indication, GI Tags, pandemic and Direct Selling.

1. INTRODUCTION

TRIPS Agreement defines a geographical indication (GI) as an indication that identifies a good as originating in the territory of a member or a regional locality in that territory, where a given quality, reputation or other characteristics of the good is essentially attributable to its geographical origin (WTO Definition). Kerala holds GI tags for 29 products and 3 logos. Out of the 29 GI registered products, 12 are handicrafts. The list of them are as follows:

- Aranmulla Kannadi
- Alleppey Coir
- Maddalam of Palakkad
- Screw Pine Craft of Kerala
- Brass Broidered Coconut Shell Crafts of Kerala
- Cannanore Home Furnishings
- Balaramapuram Sarees and Fine Cotton Fabrics
- Kasargod Sarees
- Kuthampully Sarees
- Payyannur Parithra Ring
- Chendamangalam Dhoties & Set Mundu
- Kuthampally Dhoties & Set Mundu

From the perspective of policymakers, (Geographical Indication) GI recognition is a more amenable solution to the problems faced by our indigenous products in domestic and foreign markets. The strategy of building an image of quality for a class of products made in a certain area can help our indigenous agricultural products achieve consumer acceptance quickly and can also help our small entrepreneurs command a premium price. Thus, branding India with GI can be a new marketing strategy. GI-based branding strategies as a form of market protection and promotion have long been available to wines and spirits in the European Union.[1] There were a lot of discussions and agreements around the world regarding the protection of region-specific products.[2] Even though, several past studies attest to the tangible economic benefits attributed to the recognition of GI in developing countries impact studies on the Indian context are very limited in number and so is the data on registered GI users.[3]

In this digital era, the increased customer response for e-commerce created a new digitalized market that made a noticeable difference between traditional and online marketing. Even in the present scenario of Covid -19, the e-commerce platforms withstand, enabling a safe delivery of needed products to customers. So, it's high time for the government to take geographical products to the online platform so that it aids the farmers and artisans to stabilize income and livelihood in the rural areas. Internet is accessible from every corner of the world, making sales easier on digital platforms for all traditional products. Major studies pinpointed high customers' willingness to purchase authentic and traditional GI products but have a huge chance of duplication. The studies conducted by WTO at the Indian Institute of Foreign Trade (Dr. Ruppal

W Sharma & Shraddha Kulhari, 2015) pinpointed that E-commerce is the best platform to promote Indian GI products. These 12 handicrafts from Kerala represents its culture and heritage. Adaptiveness refers to the capability of a product for adjustment to the market conditions. The product adaptability is an organization's ability to change its products and product support systems in response to changes in competitive, technological, and market environments. (McKee, D. O., & Konell, S. 1993)

2. SCOPE OF THE STUDY

The study focuses on the current sales strategies of the GI tagged handicrafts from Kerala. And the responses from the direct sellers based on the Ernakulam District of Kerala has been taken to understand the demand for handicrafts in the direct selling channels and to understand the adaptiveness of these products to the new normal created by the pandemic.

3. OBJECTIVES OF THE STUDY

- To explore and analyze the present sales strategies of the GI tagged handicrafts from Kerala.
- To understand the adaptiveness of the handicrafts in the direct selling channels.

4. RESEARCH METHODOLOGY

- **Sample Design and Size:** Convenient sampling technique was used in this particular study. Samples were chosen from the District of Ernakulam. The responses from 50 sellers active in direct selling were taken to study the adaptiveness of the GI tagged handicrafts from Kerala to the new normal created by the pandemic.
- **Statistical Tools:** Descriptive statistics were used to analyze the data collected.

5. FINDINGS

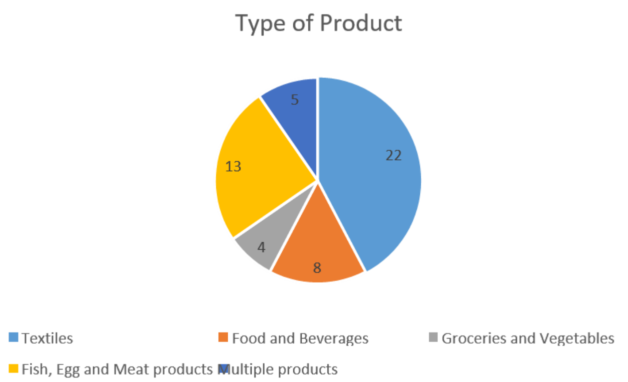
In the past few years, online shopping portals like Amazon and Flipkart had promoted handicrafts and textile products produced by the small entrepreneurs of our nation. But when we look into the case of the GI tagged products, their sales are very low as compared with other products. And these portals offer only very limited options to the buyers. Separate websites were launched for Aranmulla Kannadi and Alleppey Coir to enhance their sales. The same steps should be taken for the other products also.

The major objective of the study is to understand the adaptiveness of the GI tagged handicrafts from Kerala to the present scenario. Nowadays, most of the sales are happening through direct selling. The direct sellers post the picture and description of the product on social media like WhatsApp, Facebook and Instagram. Then the potential buyers directly interact with the sellers. As the direct sellers are interacting with the customers from the various region, they have a better idea about the demand for different products.

The products traded by the direct sellers

Type of Product	**No. of Responses**	**Percentage**
Textiles	22	44%
Food and Beverages	08	16%
Groceries and Vegetables	04	08%
Fish, Egg and Meat products	13	26%
Multiple products	05	10%

Source: Primary Data

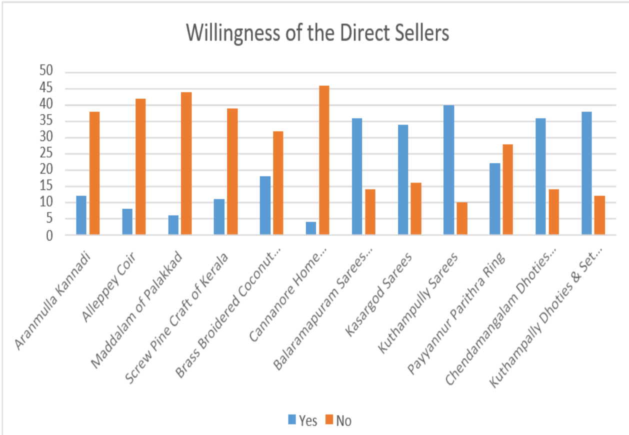


Source: Primary Data

The sellers willing to engage in the sales of the GI tagged Handicrafts from Kerala

Product	**Yes**	**No**
Aranmulla Kannadi	12	38
Alleppey Coir	08	42
Maddalam of Palakkad	06	44
Screw Pine Craft of Kerala	11	39
Brass Broidered Coconut Shell Crafts of Kerala	18	32
Cannanore Home Furnishings	04	46
Balaramapuram Sarees and Fine Cotton Fabrics	36	14
Kasargod Sarees	34	16
Kuthampully Sarees	40	10
Payyannur Parithra Ring	22	28
Chendamangalam Dhoties & Set Mundu	36	14
Kuthampally Dhoties & Set Mundu	38	12

Source: Primary Data



Source: Primary Data

From the responses of the sellers, we can understand that the majority of the sellers are ready to deal with textile products.

A consumer may try a new GI to explore the novelty concept and further may switch his interest towards the new products available in the market. The stakeholders have to promote sustained consumption through awareness campaigns and advertising strategies.

6. CONCLUSION

The revival of the producer society of the 12 GI tagged handicrafts is essential for building up strategies for marketing and consumer orientation. External support from governmental agencies is essential to build up effective promotional strategies to promote the product and its intrinsic qualities across international markets. The basic purpose of GI is to support the traditional way of production and the workers who were employed in the industry through generations. And the GI acts as a link between the geographical area and the quality attribute of the product beyond ambiguity.

Consumers, producers, and governments must all work together to achieve effective protection. All stakeholders have a common interest in preventing the misappropriation of their indigenous intellectual property (GI). In addition, the producer needs to sell his products at a good margin. Currently, the marketing and sales activities are in the right direction. Now the Aranmulla Kannadi, Screw Pine Craft of Kerala are sold through Amazon and Flipkart, and all these GI tagged products are sold through the official websites of Kerala tourism and Kerala Handicrafts. In the post-Covid period, direct selling has emerged as an important player. And the government should assist the producers to explore direct selling.

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SECURITY MEASURES TO DETECT ERRORS IN DATA LINK LAYER, WHILE COMMUNICATING IN NETWORK

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ABSTRACT

There are several ways to improve security of data and to apply cryptography at different layers of OSI model and useful approach to apply security measures in data link layer may be parity check by which a transmitted data can be detected for errors up to 5 bits. While earlier concepts applied to the data for errors only for even number of bits.

Keywords: Parity Bit, Data Link Layer, Encryption, Checksum, Codeword, Data Word.

1. INTRODUCTION

Error control: Error control is both error correction as well as detection. In this mechanism receiver inform sender of any frames lost or damaged and ask for their retransmission.

Types of error

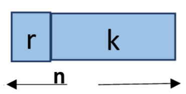
- Single bit error (1 bit difference)
- Burst error (more than 1 bit difference)

2. DATA LINK LAYER

In data link layer, mainly detection followed by retransmission (ARQ automatic repeat request).

When we send packet through data link layer we add "r" redundant bits to the packet of size "k" bits.

Total length n = k + r



Error detection and correction

Codeword	Dataword
00000	00
01011	01
10101	10
11110	11

This table can do up to 3 bits error detection and 1 bit error correction.

Eg. we received 00101 we can clearly check it is not the codeword we sent but after observing we could sense that 3rd codeword can be made by changing 1stbit and if it wasn't the case then we have to ask for retransmission.

3. PARITY BIT

These are of 2 types even parity and odd parity.

11001	1	Even parity

In this we try to make even number of 1's and if any bit is changed during transmission then it discard the packet and ask for retransmission.

Simple parity check is single bit error detecting code.

4. 2-D PARITY CHECK

It is modified version of parity. It works along both the axis x and y.

- Multiple of 2 it detects and corrects the single bit error.
- Multiple of 5 it only detects better as compared to even parity.

$$\begin{array}{c|c} 10100 & 0 \\ 10001 & 0 \\ 11111 & 1 \\ \hline 11010 & \end{array}$$

Now we'll check column wise and row wise that the sum of 1 is even or not and if it isn't then we simply add 1 at the both end of block row wise and column wise to make it divisible by 2. The same information is send to receiver to recheck it to detect any error and if condition doesn't hold then we can correct it if it is single bit error other ask for retransmission.

$$\begin{array}{c|c} 1010101010101010 & 0 \\ 1111000011110011 & 1 \\ 1111111111111111 & 0 \\ \hline 1010000010100010 & \end{array}$$

Now we'll check row wise that the sum of 1 is divisible by 5 or not and if it isn't then we simply put0. We'll check column wise it is divisible by 3 or not and if it is then we put 1 at the end otherwise 0. The same information is sent to receiver to recheck it to detect any error and if condition doesn't hold then we conclude that packet has been corrupted ask for retransmission.

5. TRANSPORT LAYER

Transmission control protocol provides reliability using error control, which detects corrupted, lost, out of order and duplicate segments.

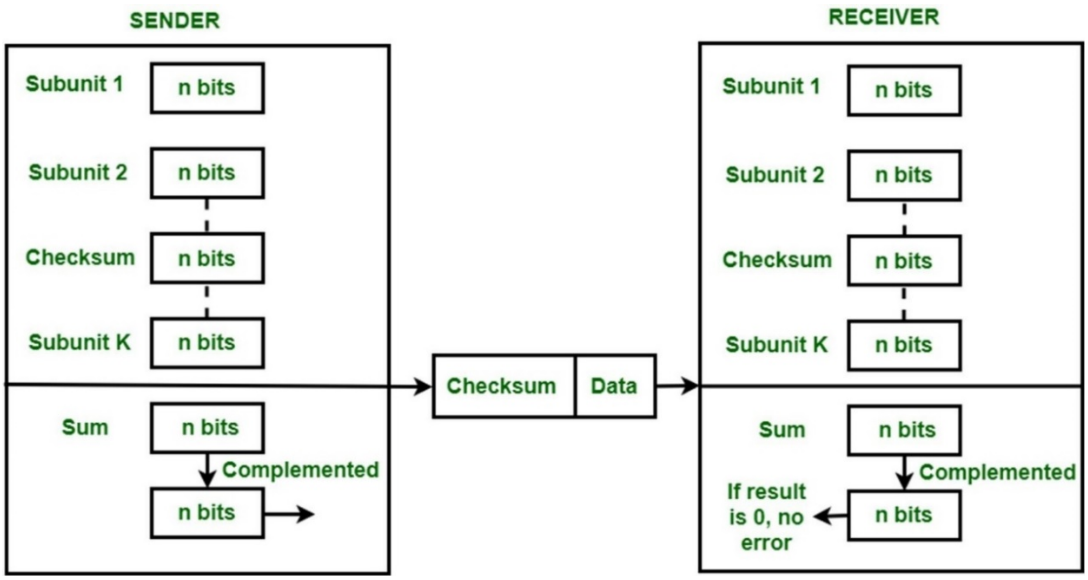
Error control in Transmission control protocol achieved through 3 types:

- Checksum
- Acknowledge
- Timeout

Checksum:

- In checksum error detection scheme, the data is divided into K segment each of m bits.
- In sender end the segment are added using 1's compliment arithmetic to get the sum.
- The sum is compliment arithmetic to get the check sum. The checksum segment is sent along with the data segments.
- At the receiver end, all received segments are added using 1's compliment arithmetic to get the sum. The sum is compliment.

If the result is zero, the received data is accepted, otherwise discarded and we have to ask re-transmission the data packet.



This method makes the use of Code Generator on Sender side and Code Checker on Receiver side. *Example:* Take 2 binary number's 1011, 1010 both are added

1011
\+ 1010
Ans. 0101

Then it contains 1 carry over so, again add this carry over in this Ans

0101
\+ 1
Ans. 0110

Then, its change to 1's compliment:

1001

In this segment the receiver receives the data packet and check for our purpose is this data is correct or wrong. The receiver Add the both data packet and they will get 1111 binary format and change in 1's compliment they get zero's the segment packet is accepted.

Again, both digits are added

0110
\+ 1001
Ans. 1111

Then, its change to 1's compliment: 0000

The receiver receives the correct message then check for corrupted segment. Any segment packet change to 1's compliment and then the segment is generated ones it means the packet is corrupted. I explain some examples for corrupt packet.

Example: Take 2 binary number's 1111,1010 both are added

Solution: 1111
\+ 1010
Ans. 11001

Then it contains 1 carry over so, again add this carry over in this

Ans. 1010

The sender packet: 1001

Both are added

Then add: 10011

Then it contains 1 carry over so, again add this carry over in this *Ans* 0100

The receiver receives the packet is corrupted

6. ACKNOWLEDGE

Transmission control protocol has another mechanism called Ack to affirm that the data segments have been delivered. In this method also used to 3 hand shaking method

Timeout: The idle timeout setting in the TCP profile specifies the length of time that a connection is eligible for deletion. If no traffic flow is detected within the idle session timeout. The Big-IP system can delete the session. The default is 300 seconds.

7. CONCLUSION

By using the parity check we observe that error detection technique is made more corrective and there are lot of possibilities to detect error up to 5 bits and more. It only fails if error bits are multiple of 5 hence it improves encryption at data link layer.

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COMPARATIVE ANALYSIS OF SELECTED INFRASTRUCTURE COMPANIES IN INDIA USING DUPONT MODEL

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ABSTRACT

The study is an attempt to examine the DuPont equation in the infrastructure sector in India. Du Pont Analysi is a method which distributes the Return on Equity (ROE) into two components –Return on Assets (ROA) and Equity Multiplier (EM). The major concern of Investors which is reflected by ROE is examined by comparing the major infrastructure companies in the sector. The effect of independent variables-Return on Assets (ROA) and Equity Multiplier (EM) is studied on Return on Equity (ROE) with the help of Multiple Regression Analysis in the study. Top three infrastructure companies in India on the basis of their market capitalization as on 31st March 2020 are taken into study. The financial data for five years ranging from 2016 to 2021 is used for the research purpose. From customers investment perspective L&T is found to be less risky than the other two companies Reliance Infrastructure Ltd. and Macrotech Developers Private Ltd.

Keywords: Dupont Model, Infrastructure, L&T.

1. INTRODUCTION

The construction sector is India's largest industry sector and the country's second-largest source of employment after agriculture it accounts for the second-highest inflow of FDI and contribute about 8% in the Indian GDP after the services sector. It employs more than 35 million people. It is through the infrastructure that there comes a demand for construction. The commercial projects, industrial activities and residential areas also give rise to the demand of infrastructure

India's construction industry is anticipated to develop gradually for the next four quarters. During the projection period, the growth trend is predicted to continue, with a CAGR of 11.7 percent between 2021 and 2025. By 2025, the country's building production is expected to reach US$ 842455.2 million. The valuation of the Indian construction industry is more than USD 126 Billion. Indian cities contribute significantly to India's GDP.

According to the Census of 2011, there was an increase in the urban population there by having a overall growth. It is estimated that almost 590 million Indian people shall reside in cities by 2030.

There are many construction companies that contribute to the infrastructure development. The present study focuses on the profitability position of top three construction companies that are: Reliance Infrastructure Ltd. Larsen & Toubro Ltd. and Macrotech Developers Private Limited (Lodha Group). For analysing the profitability position DuPont analysis is being used. It gives a comprehensive picture of the performance of the concern on the basis of different components of ROE.

It provides support to the investors and help them to be more focussed on financial performance of the respective companies. It also helps them to identify the strengths and weakness also. It provides a better insight to the financial analyst into the areas which needs more attention and focus. The finances of General Motors were cleared by the founder of the Du Pont Equation Donaldson Brown in 1914.

2. LITERATURE REVIEW

(Mahamuni & Poman, 2019) in their study uses the DuPont model to judge the operating financial performance of Automobile Companies. The researcher applies 't' test for analyzing and comparing the performance. (Sinha & Thapa, 2020) the researcher studies the impact of independent variables-Return on Assets (ROA) and Equity Multiplier (EM) on Return on Equity (ROE) through Multiple Regression Analysis for this purpose top three Automobiles companies in India on the basis of their market capitalization as on 31st March 2019 are taken into consideration. The study by Mark. T. Soliman (2008) contributes towards the explanatory power of asset turnover to the prediction of ROA and assessed the stock market returns in association with the DuPont components. The study states Du Pont model as an important tool for the financial analysis and provides viable information about the operations of the firm.

3. OBJECTIVES OF THE STUDY

- To analyse the profitability position of selected infrastructure companies.
- To find out the impact of different financial variables on Return on Equity of Selected units.

4. HYPOTHESES OF THE STUDY

H_0 – There is no significant impact of different financial variables on the return of equity of selected units.

H_1- There is a significant impact of different financial variables on the return of equity of selected units.

5. RESEARCH METHODOLOGY

DuPont model helps to analyse the basic performance by studying the causes of Return on equity (ROE). It provides important information to the investors for decision making.

ROE= Net Income/ Shareholder's Equity

The Du Pont Analysis modifies ROE into three components-Profit Margin, Asset Turnover and Equity Multiplier. The Du Pont Analysis method gives a higher ROE. If the ROE increases due to increase in Profit Margin and Asset Turnover, it may be considered as a sign of sound Company management while if the reason is the rise in financial leverage the increase in ROE may not be considered a good sign for the company.

For summarizing the performance of the construction companies in India, the effect of each three components NPM, AT and EM on ROE by multiple regression analysis has been studied in the paper. Secondary data from the financial statements of the companies were collected for the study. The equation can be written as:

$$ROE = \alpha + \beta 1\ (ROA) + \beta 2\ (EM) + \varepsilon$$

6. DATA INTERPRETATION AND ANALYSIS

(a) Reliance Infrastructure Ltd :

Reliance Infrastructure Limited (top 10 construction companies in India), originally known as Reliance Energy Limited and Bombay Suburban Electric Supply, is an Indian private sector company that specializes in electricity generation, infrastructure, construction, and defence. The Reliance Anil Dhirubhai Ambani Group owns it.

Reliance Infrastructure Ltd is a prominent utility firm with operations throughout the power value chain, including generation, transmission, distribution, and power trading. The financial activities which contribute the most to ROE can also be determined through the du Pont model. The formula for ROE is:

ROE = Net Income/Sales*Sales/Total Assets*Total assets / Shareholder's Equity

Net Profit Margin (NPM) = Net Income/Sales
Asset Turnover (AT) = Sales/ Total Assets
Equity Multiplier (EM) = Total Assets / Shareholder's Equity

Thus, ROE can be disintegrated into:

ROE= NPM * ATR * EM

Where,
Return on Assets (ROA) = NPM * ATR

ROE= ROA * EM

Table 1: Financial Variables of Reliance Infrastructure Company

Year	NPM	ATR	EM	ROE	ROA	ROCE
2016-17	14.7	15.2	78.87	6.13	2.25	8.5
2017-18	18.5	15.25	88.27	7.57	2.83	10.86
2018-19	-115.05	2.8	10.74	-6.39	-3.24	11.54
2019-20	87.55	5.07	22.35	9.87	4.4	12.19
2020-21	-1.12	8.14	21.83	-0.18	-0.09	5.94
Mean	0.916	9.29	44.41	3.4	1.23	9.81
SD	73.24	5.73	36.2	6.62	2.97	2.57
Minimum	-115.05	2.8	10.74	-6.32	-3.24	5.94
Maximum	87.55	15.25	88.27	9.87	4.4	12.19

Table 2

	Standard Coefficient	t	Sig
Intercept	3.13	5.77	0.109
NPM of Reliance	0.079	23.71	0.026
ATR of Reliance	-0.889	-5.66	0.111
EM of Reliance	0.191	7.74	0.081

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	0.99	0.99	099	0.45	278.06	0.04

a- Predictors: (Constant), Equity Multiplier, Net Profit Margin, Assets Turnover Ratio
b- Dependent Variables: Return on Equity

Analysis and Interpretation

The average mean of return on equity earned by reliance industries is 3.4%, the mean of return on assets is 1.23%. The value of R^2 is 0.99 which means 99% of variation in the return on equity of Reliance industries is due to the financial variables. The P-value is 0.04 which is less than the significant value of 0.05 therefore we reject the null hypothesis that there is no significant impact of different financial variables on the returns of the reliance company.

(b) Larsen & Toubro Ltd :

Larsen & Toubro Ltd, or L&T is the largest and a well-known Indian multinational corporation based in Mumbai with interests in engineering, building, manufacturing, technology, and financial services. It was created in India by two Danish engineers who established a world-class company that is professionally managed and a leader in India's an engineering and construction industries. The Profit after Tax for L&T as a group for the year 2021 at Rs. 5451 crore grew by a whopping 45% as compared to the previous year. Subsidiaries and associate companies together contributed Rs. 615 crore to the Group's profits, posting a rise of more than 100% over the similar amount for the previous year.

The company's leadership position can be viewed from the huge order books only. Indian infrastructure is offering huge opportunities to the different sectors and L&T is all set to take the leverage of the same. The company as huge presence in the international markets as well.

Table 1: Financial Variables of Larsen & Toubro Limited

Year	NPM	ATR	EM	ROE	ROA	ROCE
2016-17	8.29	64.28	2.23	11.89	5.33	13.36
2017-18	7.23	64.4	2.35	10.99	4.65	14.95
2018-19	9.1	66	2.49	14.96	6	17.21
2019-20	8.1	58.19	2.71	12.8	4.71	14.33
2020-21	15.46	49.55	2.45	18.79	7.66	12.55
Mean	9.636	60.48	2.46	13.88	5.67	14.48
SD	2.97	6.8	0.18	3.1	1.23	1.78
Minimum	7.23	49.55	2.23	10.99	4.65	12.55
Maximum	15.46	66	2.71	18.76	7.66	17.21

Table 2

	Standard Coefficient	t	Sig
Intercept	-31.08	-9.75	0.06
NPM of L&T	1.36	24.61	0.02
ATR of L&T	0.27	9.77	0.06
EM of L&T	6.11	10.94	0.05

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	0.99	0.99	0.99	0.164	473.2223	0.033

a- Predictors: (Constant), Equity Multiplier, Net Profit Margin, Assets Turnover Ratio
b- Dependent Variables: Return on Equity

Analysis and Interpretation:

The average mean of return on equity earned by L&T is 13.88%, the mean of return on assets is 5.67% and capital employed is 14.48%. The value of R^2 is 0.99 which means 99% of variation in the return on equity of Reliance industries is due to the financial variables. The P-value is 0.03 which is less than the significant value of 0.05 therefore we reject the null hypothesis that there is no significant impact of different financial variables on the returns of the L&T company.

(c) Macrotech Developers Pvt Ltd (Lodha Group)

The Lodha Group, also known as Macrotech Developers (previously Lodha Developers), is an Indian real estate firm based in Mumbai. Mangal Prabhat Lodha started it in 1980.

Design Architects, Structural Consultants, Interior Design Partners, Service Partners, Financial Partners, and suppliers in Sanitary Ware, Bathroom Fittings, Kitchens, Cement, Cables, and other industries have all partnered with it.

Table 1: Financial Variables of Macrotech Developers Pvt Ltd Company

Year	NPM	ATR	EM	ROE	ROA	ROCE
2016-17	6.33	20.6	56.71	7.3	1.3	23.8
2017-18	6.7	18.76	70.5	8.25	1.26	12.7
2018-19	12.73	26.71	90.17	37.99	3.4	54.7
2019-20	5.33	23.56	87.18	11.08	1.25	33.95
2020-21	-4.31	13.45	80.9	-4.98	-0.58	20.42
Mean	5.36	20.616	77.09	11.93	1.33	29.11

Year	NPM	ATR	EM	ROE	ROA	ROCE
SD	6.13	5.01	13.65	15.81	1.41	16.21
Minimum	-4.31	13.45	56.71	-4.98	-0.58	12.7
Maximum	12.73	26.71	90.17	37.99	3.4	54.7

Table 2

	Standard Coefficient	t	Sig
Intercept	-30.30	-0.90	0.530
NPM of Macrotech	2.40	1.24	0.431
ATR of Macrotech	-0.27	-0.108	0.931
EM of Macrotech	-0.45	1.15	0.454

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	0.96	0.93	0.72	8.31	4.49	0.03

a- Predictors: (Constant), Equity Multiplier, Net Profit Margin, Assets Turnover Ratio
b- Dependent Variables: Return on Equity

Analysis and Interpretation:

The Macrotech developers earned 11.93% as an average mean of return on equity. The mean of return on assets is 1.33%. The value of R^2 is 0.93 which means 93% of variation in the return on equity of macrotech developers is due to the financial variables. The P-value is 0.03 which is less than the significant value of 0.05 therefore we reject the null hypothesis that there is no significant impact of different financial variables on the returns of the reliance company.

7. CONCLUSION

On the basis of above analysis and interpretation we can conclusion that ROE is considerably influenced by NPM, ATR and EM. On comparing the profitability position of the top three infrastructure companies it was found that L&T earned max return on equity in comparison to the other two in the past five years.

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STUDY OF CAUSAL RELATIONSHIP BETWEEN FOREIGN EXCHANGE AND BOND YIELD IN INDIA DURING THE PANDEMIC

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ABSTRACT

Though it might not be perfectly right to say, the Bond price and the Currency moves share a high correlation because the Bond prices are mainly driven by the aftershocks of currency moves. When a high-yielding currency drops, the value of its Bond prices might rise and vice versa. The same is the case when there prevails a global risk-off sentiment. During these times, high-yielding currencies gain and the bond prices drop as some of the market players would have already liquidated the higher-yielding bonds with the fear that the central bank might intervene to control the currency moves. Hence, both the bond prices and currency are inversely related but to the validity of the relationship is a matter of research in varying economical scenerios. . This paper empirically investigates the causal relationship of bond yield on the USDINR foreign exchange. An attempt was made to study whether the relationship between variables changes during the period of the pandemic. The period considered in the study is from January 2020 to May 2021. Techniques of time series analysis have been used to measure the causal relationship between the variables. The paper also tried to capture the performance trend of Bond Yield in comparison to the USDINR Exchange Rate. Granger Causality Test was applied to the period under consideration to provide reasonable evidence that indicates the existence of unidirectional causality running from Bond Yield and USDINR Exchange Rate.

Keywords: Exchange Rate, Bond Yield, Granger Causality.

1. INTRODUCTION

The Bond Market: Bonds are loans investor make to a corporation or government. Interest is paid at regular interval of time for the life of the loan and principal is received at the end if the borrower doesn't default. Both private firms and government entities issue bonds as a way of raising funds. The primary buyer need not hold the bond until maturity. Bonds can be resold at any time in the secondary market, but the price the bond will fetch at the time of trade will vary depending on economic condition and the financial markets.

A bond's value changes over time, which matters only if an investor sells/trade the bonds in secondary market.Bond traders compare their returns, called the yield, to that of other bondsand other assets class in consideration with risk in the respective instrument Those with low-interest rates, or poor ratings, are worth less than higher-yielding bonds.

The interest rate and price of the Bond is inversely related. As the price falls, the interest rate rises. The lower the price of a bond relative to its face value, the higher the interest rate. The face value of the Bond instrument ranges between Rs 1000 & Rs 100 000 and maturity might be 3 months to 30 years.

2. INTERACTION BETWEEN BOND MARKET & MACROECONOMIC PERFORMANCE

The linkeges of bond market and macroeconomy is derieved from the connection between the interest rates and aggregate demand. For example, interest rate affects Investment and Investment is one of the deriving factors of aggregate demand. Businesses are less likely to go for capital formation and expenditure if interest rates are high; they're more and likely to add capital assets and capacity if interest rates are low. In the period of higher interest rate investor experiences fall in bond prices and subsequently businesses donot involve in investment leading to fall in aggregate demand. A fall in aggregate demand, other things remaining unchanged, means more unemployment and less total output and less disposable income. Incontrast, an increase in the price of bonds lowers interest rates and makes investment in new capital more attractive. That change may boost investment and thus boost aggregate demand.

3. IMPLICATIONS OF BOND MARKET ON CURRENCY TRENDS

The forces of demand and supply in foreign exchange market mainly comes when people purchase a country's currency for two reasons: to purchase goods or services in that country, or to purchase the physical /financial assets of that country.

Currencies are the basic building blocks of all economic activity. The forex universe encompasses all the other fields of financial activity including the bond, commodity, and stock markets.

Inter-market relationships govern currency price action. The dynamics of demand that cause these markets to influence currency quotes also ensure that fluctuations in the bond market affect the short and long-term dynamics of the forex market strongly. Bond yields, for example serve as an excellent indicator of the strength of a nation's financial market, which increases the demand for the nation's currency. The bond yield may rise or fall, it is basically derieved from intrest rate expectation and a "flight to safety" with capital flowing from risky assets to less risky assets like bonds. The flight to safety pushes bond prices higher and, by their inverse relationship, pushes bond yields down.

Developments in the bond market have important long-term implications for currency trends. As an important component of the financial account, external cash flows into bonds have a direct role in determining long-term currency trends.

As a rule of thumb, in short-term, when a central bank raises rates and consequently bond yields rise &bond prices fall, the currency appreciates as it returns becomes better and it is attractive to hold. **There is a relationship between the yield of the bonds and the general trend of the currency: when people are willing to invest in risky assets, low-yielding currencies depreciate,** when markets fall low-yielding currencies outperform, because of the unwind of above trades.

However, there are research conclusions that states during market distress periods, a positive correlation between bond prices and currencies emerges.

4. LITERATURE REVIEW

Shanmugan (2017) examined short term relationship between exchange rate and sovereign bond using co-integration method and long-term relationship of these two variables using granger casuality test. They found that sovereign bond yield causes the exchange rate of USD/INR unidirectionally. The results show clearly that there is a unidirectional causal relationship between the exchange rate of USD/INR and India's Sovereign bond yield in India. Monthly time series data from 2006 to Dec 2018 was used to examine the relationship between 10 years governement bond yield and exchange rate (Syarif, 2019). The VAR model and granger causality test was used to test this relationship. They revealed that in the short-term two-way relationship exists and concluded a strong relationship between government bond yield and exchange rate. A study on influence of currency rate volatility on bond yield was done by Hui et al (2017) who studied this relationship in several countries as Brazil, Russia, Mexico, Turkey, Phillipines etc. The period of this study was 2003-2014. The study concluded that exchange rate influences the yield on bond. Pericoli & Taboga (2012) included the variable interest rate in studying the relationship between bond yield and exchange rate. and between exchange rate and interest rate. (Andrew Ang, 2010) In their study explained the no-arbitrage framework that any variable that affects the pricing of the domestic yield curve has the potential to predict foreign exchange risk premiums. They found that other yield curve predictors like changes of interest rates and term spread significantly predict excess foreign exchange returns. Predictability from these yield curve variables persists up to 12 months and is robust to controlling for other predictors of currency returns.

(Blaise Gadanecz, 2014) This paper considered the role of exchange rate risk in influencing local currency sovereign bond yields in emerging market economies (EMEs). It accounted for the exchange rate volatility as an influencer for exchange rate expectations and uncertainty. Their major contribution was in explaining the phenomena that when exchange rate volatility increases, investors require a larger yield compensation for holding EME local currency sovereign bonds. (Kal et al 2015) This paper investigated the interaction of the deviation of a currency from its fundamental rate with interest rates and stock market yields. Markov-switching Vector Autoregressive (MS-VAR) model is utilized for this study. Wald and Likelihood ratio tests are used as modeladequacy measures. The impulse-response functions are employed to analyze the link among the variables. The model is implemented in four major currencies: the Australian dollar, the Canadian dollar, the Japanese yen, and the British pound. The results provide evidence that the relationship between economic fundamentals and the nominal exchange rates are subject to change depending on the overvaluation or undervaluation of the currencies relative to their fundamentally determined rate of return.

5. OBJECTIVES

The primary objective of the study is to examine the relationship between the exchange rate of USD/INR and 10 yr Sovereign bond yield traded in India:

- To ascertain the stationarity between the Exchange rate of USD/INR and 10 yr Sovereign bond yield.
- To analyze the short-term (during pandemic) relationship between the Exchange rate of USD/INR and 10 yr Sovereign bond yield.

6. DATA AND METHODOLOGY

This paper is structured in a way that provides a discussion on the relationship between the 10 yr sovereign bond yield and exchange rate USD/INR during the pandemic period.

The data

There were two types of data time series used in this study which arethe exchange rate and bond yield. The exchange rate was represented by the USD/INR. This is simply because in general, the foreign currency used as a transaction tool in the international market is the currency of the US which is USD. Meanwhile, bond yield was represented by Indian government bond yield for 10 years (expressed in % unit). The time sample used in this study was a daily time series that spanned from January 2020 to May2021.

The Methodology

The return of the Bond yield and Exchange rate at time t is calculated by taking the natural logarithm using the closing price. $R_t = \ln (P_t / P_{t-1})$.

The descriptive statistics of the returns have been calculated to check the normality of the return time series. JarqueBera test (Table 1) was applied to check the normality and if the test statistics are greater than the critical value then we can infer those returns are not normally distributed.

Further, Pearson's coefficient of correlation is calculated to study the strength and direction of the relationship between foreign exchange and bond yield.

ADF: Each financial time series is tested for stationary, the null hypothesis to check whether there exists unit root or not is tested by the most popular unit root test used in most of the causality test research Augmented Dickey fuller test. ADF test constructs a parametric correction by assuming that the time series y follows an AR(1) process and adding lagged difference terms of the dependent y variable. In this study, the ADF test has been applied and the analysis is done by considering a lag of 1 variable. Test regression is as follows:

$$\Delta Y_t = \alpha + \beta_t + \gamma Y_{t-1} + \delta_1 \Delta Y_{t-1} + \ldots\ldots\ldots \delta_p \Delta Y_{t-p} + \varepsilon_t$$

Where: α = constant, β = coefficient on a time trend, p = the lag order of the autoregressive process.

ADF statistics is a negative number and is compared with the calculated ADF critical values, the more negative a number stronger inferences can be drawn to reject the null hypothesis that at some significant level there is a unit root /non-stationery.

To investigate the cause and impact relationship between Bond yield and USD-INR, a globally accepted Granger Causality test has been applied. The test was performed on the full sample period. Granger Causality test is the statistical test to determine whether a one-time series is useful in forecasting another. The unidirectional and bidirectional relationship explain whether one variable can predict another. Its mathematical formulation is based on linear regression modeling of stochastic processes (Granger 1969).

To test the causality between variables following the bi-variant regression model is used.

$$\Delta X_t = \alpha_x + \sum_{i=1}^{k} \beta_{x,i} \Delta X_{t-i} + \sum_{i=1}^{k} \gamma_{x,i} \Delta Y_{t-i} + \varepsilon_{x,t}$$
$$\Delta Y_t = \alpha_y + \sum_{i=1}^{k} \beta_{y,i} \Delta Y_{t-i} + \sum_{i=1}^{k} \gamma_{y,i} \Delta X_{t-i} + \varepsilon_{y,t}$$

The F statistics obtained from the test indicates if X granger causes Y or not. If the value is significant then we can say that the changes in X happened first followed by changes in Y.

7. EMPIRICAL DISCUSSION

JarqueBera test was done to confirm the normality (Table 1). A normal distribution has a skew of zero (i.e., perfectly symmetrical around the mean) and kurtosis of three. The null hypothesis for the test is that the data is normally distributed; the alternate hypothesis is that the data does not come from the normal distribution. As shown in Table 1, the large JB values are a strong piece of evidence that rejects the null hypothesis of the JarqueBera Test. This implies that the data does not come from the normal distribution.

Table 1: Descriptive Statistics of the variables

Bond				USD	
Mean	-0.024150505			0.016694788	
Standard Error	0.040363234			0.020629994	
Median	-0.016479842			-0.001525391	
Mode	0			0	
Standard Deviation	0.733234562			0.374762454	
Sample Variance	0.537632923			0.140446897	
Kurtosis	5.221493577	1.2321		3.443465584	0.0484
Skewness	-0.167803614	0.028158		0.276558953	0.076484855
		1.260258			0.124884855
n/6		55.00			55.00
JarqueBera (JB)		69.31419			6.868666999

Source: Author compilation

Pearson's correlation coefficient among the variables is reported in Table 2. The correlation table displays a positive correlation between the exchange rate USDINR and the 10-year government bond yield during the pandemic period considered in the study.

Table 2: Correlation Matrix

	BOND	USDINR
BOND	1	
USDINR	0.059941341	1

Source: Authors Compilation

Before following the formal tests for stationary, it is necessary to plot the logarithmic form of time series variables, as we have done in Figure 1 and 2. These graphs clarify the nature of the series. A non-stationary test may give a spurious result, so it is imperative to integrate the time series in the same order. Each time series under consideration is tested for stationery and the result of the ADF Test is shown in Table 3. ADF Test has been performed to check the stationarity of the time series, i.e., whether the shift in time does not cause a change in the shape of the distribution (Table 3). This test's null hypothesis is that there is a unit root; the alternate hypothesis is that the time is stationary. The ADF Test statistics summarized in Table 3 are more negative than the tabulated critical values calculated at 5 percent and 10 percent. Thus, the variable series are integrated at the first difference I(I).

Table 3: Unit Root Test- Augmented Dickey-Fuller for stationary

	Variable	**USDINR**	**Bond**
	ADF Test Statistics	**-2.96**	**-3.368**
ADF Ref. range (Tau Statistics)	**5%**	-2.863	-2.863
	10%	-2.568	-2.568
	Significance	**I(I)**	**I(I)**
	Conclusion	**Series doesn't have a unit root**	**Series doesn't have a unit root**

Source: Authors Compilation

Granger Causality Test was performed to investigate causality between the variables considered in the study (USDINR and Bond Yield) in a time series Table 4. The null hypothesis for the test is that lagged x-values do not explain the variation in y. in other words, it assumes that x(t) does not Grager-cause y(t). As per the calculation summarized in Table 4, if the p-value is greater than 0.05, we accept the null hypothesis, or else we reject the null hypothesis.

Table 4: Granger Causality Test

Granger Causality test				
	Lag2		**Lag 4**	
Null hypothesis	**F stats**	**p-value**	**F stats**	**p-value**
Exchange rate volatility does not granger cause Bond return	0.097	0.908	0.29 3	0.883
Bond return does not granger cause Exchange rate volatility	7.106	0.00094 ***	3.61 7	0.0066* **
*** = *significant at 1% ; **= significant at 5%*				

Source: Authors compilation

8. RESULTS AND FINDINGS

The primary objective of the study aims to examine the causal relationship between the 10 yr government yield and the USDINR exchange rate during the pandemic crisis. The result of the Granger Causality Test shows that in the short run, i.e., during the pandemic, there exists a uni-directional causality running from bond returns and the USDINR exchange rate when two lags and four lags are applied at the 1 percent and 5 percent levels of significance. Hence, it is observed that bond market returns led to volatility in the USDINR exchange rate during the pandemic, but the USDINR exchange rate prices do not lead to change in bond returns. The ADF test concludes that the series is stationary on the first difference. During the pandemic period, the bond yield and the USDINR foreign exchange highlighted a positive relationship. This relationship can be seen in Figure 1, where the returns of both variables are plotted. The inference from the positive correlation between the variables could be that with the rise in yields, and bond prices fall, the currency appreciates as it becomes more attractive to hold and get a better return from CDs. Further, it can be inferred that there is a relationship between the yield of the bonds, and the general trend of the currency, when people are ready to take the risk, the low-yielding currency depreciates, as an investor buys high-yielding bonds and doesn't hedge the currency risk.

9. CONCLUSION

The study tried to examine the causal relationship between Bond Yield and the USDINR exchange rate during the pandemic. The study used daily data from January 2020 to May 2021. The Granger Causality Test results reveal that the Bond Yield leads to volatility in USDINR foreign exchange during the short-term pandemic period, and the price of USDINR exchange rate does not lead to change in Bond Yield.

However, there during the market distress period, a surprisingly positive correlation between the bond prices and the currencies may emerge. If a country is in a balance-of-payments crisis, people start selling its currency, and its exchange rate falls. This raises inflationary pressures, as prices of exported goods rise afterward (exporters can ask for higher prices for their own, falling, currency, abroad). The central bank thus raises the interest rates, to fight inflation and protect its currency. When yields rise, prices of bonds fall, and there you have it; the currency and bonds fall at the same time. On the other hand, the central bank may lower the interest rates substantially, then make them negative, to discourage the foreigners from buying the currency (happens in case of currency considered as safe haven worldwide). The currency had been appreciating too much, introducing deflationary risks; yield fell, and the price of both bonds rose at the same time as the currency.

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11. GRAPHS

Figure 1: Price trend of Bond Yield and USDINR)

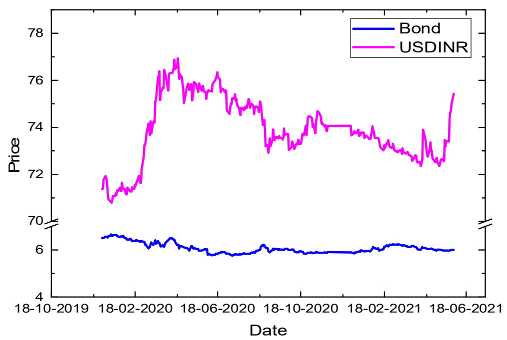
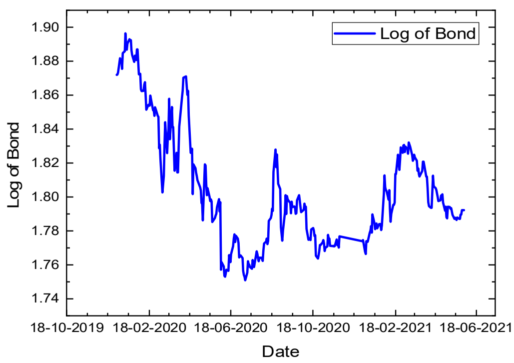
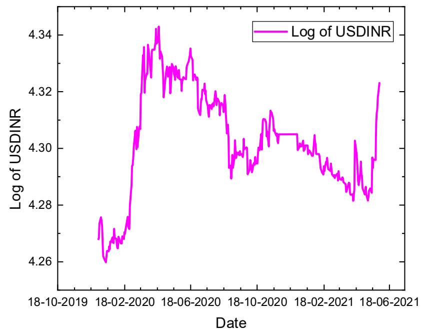


Figure 2: Log price of Bond Yield and USDINR





(*Source: Prepared by Authors*)

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IMPACT OF EMOTIONAL INTELLIGENCE ON LEADERSHIP EFFECTIVENESS DURING COVID-19: A CROSS-SECTIONAL ANALYSIS

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ABSTRACT

Background: *During pandemic, service sector employees are exposed to a variety of health risks that have an impact on their personal lives and work environments. In the service sector, emotional intelligence and leadership effectiveness has a significant impact on employees' success and performance. Previous research studies, however, have report inconsistent results pertaining to how different strata of EI affect leadership effectiveness during pandemic. This study contributes to the existing literature on this contemporary issue by investigating the impact of EI on leadership effectiveness among banking sector employees during COVID 19 in India.* ***Methods:*** *In convenience sampling, and snowball sampling techniques 131 assistant managers, senior managers and managers from public and private sectors banks completed an online survey assessing EI and leadership effectiveness during COVID-19 climax levels in March and April, 2020. The Emotional Competence Inventory devised by Boyatzis et al., (1999) was used to determine EI of the participants. Leadership effectiveness was measured by Multifactor Leadership Questionnaire (MLQ5x). Data analysis was performed using SPSS statistical software.* ***Results:*** *The study highlights the positive correlation of overall emotional intelligence with leadership.* ***Conclusion:*** *The study has posed prerequisites for an organization for emotional intelligence and leadership training programs and to distinguish potential managers and assist them to become a successful leader.*

Keywords: Emotional Intelligence, Managers, Leadership Effectiveness, COVID-19.

1. INTRODUCTION

During pandemic, service sector employees are exposed to a variety of health risks that have an impact on their personal lives and work environments. Recognizing and understanding one's own and other people's emotions, to discriminate between different feelings and label them appropriately, and to use emotional information to guide thinking and behaviour (Peter Salovey and John Meyer, 1990). Leadership is the ability to guide a group or organization toward a certain aim or objective. This perspective argues that an organization requires leadership during a service crisis by creating a culture of emotional intelligence in their organizational teams. Emotional intelligence has been identified as a critical aspect of leadership and consists of self-awareness, self-management, social awareness, and social skills. In organizational behavior, employees interactions depend upon a high level of attention to their own thoughts, feelings, and behaviors as well as those of the others to communicate in a way that demonstrates both understanding and empathy. While these recommendations are not unique to COVID-19, they are of paramount importance during the pandemic.

The novel coronavirus and the disease it cause, COVID-19 is currently impacting every aspect of daily life around the world. It is one of the most significant and unpredictable global public health crises in recent times. The coronavirus pandemic represents a serious and immediate adaptive challenge that can best be solved by all those impacted working together and thinking of others to slow the spread of the disease. The concept of emotional intelligence was first defined by Salovey and Mayer in 1990 as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. Emotional intelligence is critical to effective leadership and is amenable to intervention. Managers have identified emotional intelligence as an essential component of leadership

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Impact of Emotional Intelligence on Leadership effectiveness During COVID-19.

The novel coronavirus and the disease it causes, COVID-19 is currently impacting every aspect of daily life around the world. It is one of the most significant and unpredictable global public health crises in recent times, In India the number of individuals infected with and dying from novel coronavirus infection is increasing rapidly, even as significant measures are taken to slow the nationwide spread of the pandemic. The general public is staying home in often self-imposed quarantine, practicing social distancing to "flatten the curve" of nationwide transmission, since social distancing has previously been shown in modeling studies to reduce the transmission of the influenza virus in dense community settings, such as schools and colleges (Ahmed, Zviedrite, & Uzicanin, 2018). The coronavirus pandemic represents a serious and immediate adaptive challenge that can best be solved by all those impacted working together and thinking of others to slow the spread of the disease.

H_{A1}: There is a relationship between emotional Intelligence of managers and their leadership effectiveness during covid-19.

$\mathbf{H_{A2a}}$: There is a relationship between self-awareness of managers and their leadership effectiveness during covid-19.

$\mathbf{H_{A2b}}$: There is a relationship between of self-management of managers and their leadership. Leadership effectiveness during covid-19.

$\mathbf{H_{A2c}}$: There is a relationship between social awareness of managers and their leadership effectiveness during covid-19.

3. RESEARCH METHODOLOGY

Measures

Emotional intelligence was determined using, Emotional Competence Inventory (ECI) devised by Boyatzis et al., (1999). This scale comprised of 80 items segregated into four dimensions - self-awareness, self-management, social awareness and social skills. Forty most relevant items were chosen depending on the objectives of the study. The reliability of the instrument was examined using Cronbach's Alpha which was found to be high ($\alpha = .953$). The managers responded on a five-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5).

Leadership- leadership was evaluated using Multifactor Leadership Questionnaire (MLQ5x) developed by Bass & Avolio, (2000). Nineteen items of this instrument found most reliable for the study were selected and administered. The reliability of the scale came out to be in the acceptable limit. The MLQ 5x scale items have Cronbach's Alpha value of .884 . The responses were collected on a five-point Likert ranging from "Strongly Disagree" (1) to "Strongly Agree" (5).

4. SAMPLE AND DATA COLLECTION

In this study, a cross-sectional survey was conducted using a self-administered questionnaire as a tool for data collection. The online mode as well as offline mode was utilized to collect the responses. Convenience and snowball sampling techniques were followed and a total of 131 responses were collected which consisted of 67 male employees and 64 female employees. Responses were collected from the managers working in public and private sector banks operating in Delhi. For the purpose of analyzing the research problem assistant managers, managers, senior managers and managers across all functions of the organizations participated in the study.

5. DATA ANALYSIS

Depending upon the hypothesis $\mathbf{H_{A1}}$, $\mathbf{H_{A2a}}$, $\mathbf{H_{A2b}}$ **and** $\mathbf{H_{A2c}}$ Karl Person's coefficient of correlation was applied.

6. RESULT AND ANALYSIS

Table 2: Pearson Correlation

	Emotional Intelligence	**Self-Awareness**	**Self- Management**	**Social Awareness**	**Social Skills**
leadershipeffectiveness Correlation coefficient	.807**	.520**	.695**	.821**	.780**
Sig. (2-tailed)	.000	.000	.000	.000	.000

***. Correlation is significant at the 0.01 level (2-tailed).*

Hypothesis 1 proposes that emotional intelligence is significantly related to leadership. As shown in Table 1, EI score was found to be significant and highly correlated with leadership effectiveness ($r = 0.807$, $p < 0.01$) which indicated that managers who possess higher emotional intelligence possess greater leadership effectiveness towards their subordinates during pandemic. The result goes consistent with earlier studies where it was inferred that leaders who are high on emotional intelligence may instill in their organizations a sense of enthusiasm, excitement, and optimism as well as an atmosphere of cooperation and trust through their high-quality interpersonal relationships with their followers (George 2000).

Hypotheses 2a, 2b, 2c and 2d suggested that four dimensions of emotional intelligence - self-awareness, self-management, social awareness, and social skills are significantly related to leadership effectiveness. As shown in Table 1, all these four dimensions are positively correlated with leadership effectiveness which suggested that managers with all these dimensions have higher leadership towards their employees. The findings support the claim of positive impact of emotional intelligence on leadership effectiveness (Sehrawat and Sharma, 2014). It can be found out from correlation analysis that higher emotional intelligence was associated with higher leadership effectiveness (Rosete 2007). The reason behind significant correlation between emotional intelligence and leadership can be the high perceiving skills of emotions by the managers who knows what their subordinates feel, reads them accurately, is good at recognizing their own feelings and can express their feelings appropriately. These skills may be of great value as they allow a manager to accurately capture important social data around them. These results have significant implications on how an organization should select and develop executives.

7. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study carries certain limitations that must be acknowledged. First is the confinement of the length of the measure. The measures of emotional intelligence and leadership styles were composed of forty and nineteen questions, respectively which was time consuming for the respondents to. Hence, the objective of the paper has not been sufficed appropriately. The second limitation is the low number of samples and the apparent variation in composition of sample. In this study, 67 respondents were male and 64 were female. The future researchers are suggested consider the uniform composition of samples in order produce more reliable generalisation.

8. RELEVANCE AND CONCLUSION

This study delineates the role of emotional intelligence and leadership styles as important elements in the development of managers, as well as organisation. It provides support to the hypotheses and asserts its validity in the Indian employment scenario. In addition to this, the study extends its relevance for the employees and organisations operating in such turbulent work environment. The organisations need to ensure that its managers adopt emotionally intelligent behavior to cope with the internal and external changes. The leadership-oriented personnel can bring competitive advantage to an organisation. To inculcate understanding the behavior of employees, the organisations can initiate emotional intelligence and leadership training and development programs and reward accordingly and motivating them to achieve goals. The difference in educational qualification and organisational ownership fails to find significance in hampering or bolstering the emotional intelligence and leadership styles among employees indicating that when managers take charge of managing their own subordinates it is their abilities, aspirations that matters the most rather than their educational qualification or the organisational ownership under which they are appointed.

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Dr. Divya Chowdhry is Director in Jagran Institute of Management, Kanpur (Uttar Pradesh). It is an educational initiative of Danik Jagran (World's largest read Hindi Newspaper). She is a post graduate in Commerce, PGDBM in Marketing & Ph.D in Commerce. She is a gold medalist throughout her academics. She has a rich experience from corporate, academia & more than 14 years of experience in research. She has presented more than 35 papers in various International, National Conferences & Seminars in India & Abroad. More than 30 research papers are published till date and being a workaholic in her life her work has been shaped by her desire to break stereotypes through Education and Research. Four Research scholars have submitted synopsis for Ph.D under her supervision and she is coguide of two Research Scholar too. She has authored and published book in Human Resource Management. She is an editor of few books like Evolution of Business in the Cyber Age Digital Transformation, Threats, & Security and Editor of Advances in Agri-Management. Along with this she has contributed various chapters in books. She is now well known for organizing & chairing many International Conferences / Seminars / Workshops as Convener, Co-Convener and member of organizing committees. She has been invited as a Keynote Speaker & Session Chair for many National & International Conferences & Invited as Judge for Inter Institutes competitions. She has been an active member of Governing body, Board of Studies, Advisory board, Research & Development Board of various Colleges & Institutes. She has worked as Editor and Co-Editor of management journals and currently editorial board member of few International journals. She is also a professional life member of associations like Indian Commerce Association & the Indian Science Congress Association. Besides she is constantly involved in curriculum development & paper setting of various Institutes & Universities in area of Management. On the other side of the personal front she feels that she has the greatest responsibility to work hard and contribute to the betterment of women in India. Early on in her young age, she realized that as a woman she could endure and overcome adversity through perseverance and grit.

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