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Proceedings of National Research Conference on
**The Next Normal: Building Agile,
Sustainable, Tech-enabled
Organizations (TNN –BASTO-2022)**

MAY 20, 2022

Editor-in-Chief

Dr. Sheetal Sharma

Editors

**Dr. Vibhuti Gupta | Dr. Neha Tiwari
Dr. Abhishek Singh | Prof. Tauseef Irfan**

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PRADESH**

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PREFACE

A National Research Conference on “The Next Normal: Building Agile, Sustainable, Tech-enabled Organizations (TNN-BASTO-2022)” conducted on May 20, 2022 was organized by IILM Academy of Higher Learning, Lucknow, India

IILM Academy of Higher Learning, Lucknow was established in the year 2004 under the aegis of the Ram Krishan & Sons Charitable Trust, Lodhi Road, New Delhi. The Trust is running various Management Institutions under the acronym IILM in different parts of the country with Campuses in Lucknow, New Delhi, Gurugram, Greater Noida, and Jaipur. Over the years, the Institute and its founders have successfully fulfilled the extensive objective of propagating quality professional education and have made IILM a National Brand. The Lucknow Campus of the Institute offers a two year full-time Post-Graduate Diploma in Management (PGDM) & PGDM (Finance), which is approved by the AICTE, Ministry of Human Resource Development, Govt. of India.

The conference attempts to address the challenges that have come up with the pandemic and are gradually being accepted as the next normal. In the present time of the pandemic, it is imperative for organizations, globally, to adapt to the recent trends like disruptive technology, volatile business environment, uncertain global economies, and evolving public policies across geographies and sectors, while simultaneously staying attentive to the organization's vision, mission, values, and goals, in order to remain sustainable and competitive. The conference served as a platform for academics, research scholars, students, industry experts, entrepreneurs, and policy experts to share their valuable insights as well as learn from others.

Students, Research scholars, Faculty members from different parts of India submitted their original research articles to the conference and presented them virtually. All the articles submitted to the conference were checked for uniqueness and they were properly scrutinized by the research committee during the review process. Eminent professors and researchers from different organizations participated as keynote speakers and session chairs and added value to the conference.

Dr. Naela Rushdi Professor (Finance) & Director was the Patron of the conference. The eminent members of advisory committee are:

Advisory Committee

Dr. Cherian Samuel, Associate Professor, IIT-BHU

Dr. Pankaj Kumar, Professor, IIM, Lucknow

Dr. Prakash Singh, Professor, IIM, Lucknow

Dr. Shailesh Kaushal, Associate Professor, Lucknow University

Dr. Sushil Kumar, Professor, IIM, Lucknow

Dr. Utkarsh Singh, Assistant. Professor, IIM, Kashipur

Mr. Amol Datt, Country Head, Thorogood Associates

Dr. Sheetal Sharma, Professor (HRM& OB) & Dean (Academics) was the Conference Chair and Dr. Vibhuti Gupta, Associate Professor was the Conference Convener. The members of the organizing committee included Dr. Neha Tiwari, Associate Professor Dr. Abhishek K Singh, and Assistant. Professor & Prof. Tauseef Irfan Assistant. Professor

We would like to express our sincere thanks to the organizing committee and advisory committee members, keynote speakers, session chairs, reviewers and participants of this conference for their valuable support.

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The Challenges and Socio-Economic Condition of Madhubani Painting Women Artisans in Madhubani District, Bihar

Neha Singh	Research scholar: Full Time, Amity Business School, Amity University Lucknow
Dr. Sana Moid	Assistant Professor, Amity Business School, Amity University, Lucknow.
Prof. (Dr.) Naela Rushdi	Director and Professor, IILM, Lucknow.

Abstract

Purpose- The purpose of this study is to find out the problems faced by the women practicing the Madhubani Painting traditional artform in the Jitwarpur village in context of lack of education and finance, marketing channels, restricted mobility and Competition.

Design/methodology/approach- The paper is based on Primary data collected from sixty women artisans using face-to-face interviews and focus group discussions were successfully conducted among the women artisans in Jitwarpur village.

Findings – The present study found that women artisans of the Jitwarpur village faced challenge related to mobility, lack of market, training and competition. The intermediaries keep the money for the rights of most of the women with them, they do not give them the right price for their demanding work. The findings of the study showed that most of the respondent's income from selling Madhubani paintings is less than INR 5,000.

Conclusion –*The challenges of finance, market, mobility are the issues, but they got the support from the government in organizing exhibitions, local trade fairs where they showcase their artwork. The sector was unorganized with no medical insurance, social and financial security. The government should distribute more artisans cards to the artisans so that are able to access the credit facilities and upskill themselves with latest fashion trends and technology.*

Limitations: *The research is limited to Madhubani Painting women artisans. However, the study may be enhanced outside the boundaries of the state and handicraft industry.*

Keyword: *Women Artisans, Madhubani Painting, Challenges, socio -economic, Sustainability.*

INTRODUCTION

Madhubani painting is a traditional folk painting made by women in a small village named Jitwarpur in the Madhubani district. Madhubani painting has a Geographic indication status, due to its wonderful artistry and its historic existence from century and the legacy passes down, this tradition art is being done for centuries and people's enthusiasm in doing it does not diminish. The women practiced the artwork in their free time and love to portrait the pictures of God and Goddesses in their own creative style. Natural and Fabric colors both used which enhanced the beauty of art. Its intricate design, geometrical pattern and color combination attracts not only domestic customer but international art lovers as well. There are some of the women artisans in the village who got Padmshree award for their outstanding performance, some of them are Sita Devi, Ganga Devi, Baua Devi, Mahasundari devi and Dulari devi. These women teach painting to other women so that she can bear the expenses of the petty needs of their household on her own and not depend on anyone. But it is very challenging, women are still not given the highest status accorded to men. People have decorated the walls of their homes with Madhubani painting pictures, so that the beauty of their house increases, and their folk heritage is appreciated not only in India but also outside India. They face several challenges like lack of training, restricted mobility, finance, unawareness about the market, the middlemen keep the money for the rights of most of the women with them in a way, they do not give them the right price for their hard work. After pandemic, women artisans got an opportunity in mass production of face mask which is highly demandable not in the Indian market but also in the foreign market. Many artisans started portrait the painting on the theme of pandemic and created awareness to keep social distancing

LITERATURE REVIEW

One District One Product to the world so that the small artisan become self-independent. The artisans work should be praised even in the country and abroad. The problem with such projects, however, has been that the artisans and weavers in India do not have adequate capital or the tools needed to take up large orders (K.P Narayan.2007). During the pandemic, artisans working from home all over the world—from El Salvador to India to right here in the U.S.—were nimble and resourceful enough to be able to pivot quickly to using their skills to make masks. In Seattle, the Refugee Artisan Initiative (RAI) helps refugee and immigrant women find employment. When the

lockdown went into effect, Ming-Ming Tung-Edelman, the founder of RAI, put many of the RAI women to work producing 40,000 cloth masks from home. Exhibitions have been cancelled since February 2020. Wholesale buyers' businesses have shut down due to which payments have not been made. Buying yarn has not been possible and dyeing units have closed. Weavers have lost wages and in the absence of raw materials and working capital, there is no certainty about when they can begin again. According to National Skill Development Corporation (NSDC) (2013-17, 2017-22) had estimated that approximately 7.3 million people depend on handicraft and allied activities for livelihood. The handloom products symbolize their religion in the form of design. The selected handloom products earning average annual profits of Rs. 5070/-. This amount of profit is very nominal, and it is difficult to produce by them at this level of profits. (Samira Patra, 2021). The chikankari artisans, faced many difficulties like lack of skill up-gradation, low interest of young generation, low wages, and direct marketing of the products (P. Singh et al., 2018). Indian craftsmen used to earn around a regular minimum income of Rs. 4000-7000. Recently, they are struggling to sustain livelihood due to a few looming challenges.

RESEARCH GAP

Major study on the artisans of different handicrafts has been done so far but the challenges and the Socio - economic livelihood of women artisans practicing the Madhubani painting remained untouched, who are engaged in Madhubani painting remain unexplored by the researcher.

OBJECTIVE OF THE STUDY

- To study the Socio-economic profile of women artisans engaged in Madhubani Paintings.
- To study the challenges faced by the women artisans making Madhubani Paintings.
- To suggest measures for promotion of women artisans making Madhubani Paintings.

RESEARCH METHODOLOGY

The total number of samples taken under this study are 60 women artisans of Jitwarpur village that comes inside the Madhubani district. The study was conducted during the month of November - December 2021. Quantitative and qualitative data are used in the research. Structured questionnaires were created based on (A. Singh & Naik, 2009), in which the authors discuss their livelihood and socioeconomic situation of banarsi silk weaver, interview schedules among the women artisans in Jitwarpur village who are engaged in Madhubani painting.

FINDING OF THE STUDY

The data collected from the field and analysed the Socio-economic profile of the women artisans. The information was presented in a tabular format, with frequency and percentages derived in Microsoft Excel. In this study, Age has been categorized into six groups. Majority of the respondents consisting of 38 % women belonged to the age group of 22-30 years, 27 % of the women were of 31-40 years, 10 % were found to be in the 41-50 years range, and 15% in the category of 51-60 years in the above 61 years section 2 % and in the age group of 18-21 found to be 8%. 28% women were found illiterate. 10% of the women had studied less than class 5th standard. 8% women had studied up to class 10th

and 10 % of women had passed Class 12th. 38% of women were found to be graduated. 5% women found to be postgraduate. Out of total respondents, 63% of respondents are married, 38% are unmarried. In the selected area, 16% are male and 83% are female and 47% have experience less than 5 year. The artisans were getting their monthly income by selling the Madhubani painting less than 5,000 INR and only 25.8 % are getting above Rs.25,000 and the rest of them earning between INR 5,000 – 15,000.

Variables	Category	No. Of Respondent	Percentage %
Age (Years)	18-21	5	8
	22-30	23	38
	31-40	16	27
	41-50	6	10
	51-60	9	15
	above 61	1	2
Educational Qualification	Illiterate	17	28
	Primary School (1st - 5th class)	6	10
	Middle School (6th - 8th class)	5	8
	High School (9th - 12th class)	6	10
	Graduation	23	38
	Postgraduate	3	5
Marital Status	Married	37	62
	Unmarried	23	38
Caste	General	38	63
	OBC	4	6
	SC/ST	18	30
Gender	Male	10	16
	Female	50	83
Experience(years)	Less than 5	28	47
	5 - 10	3	5
	11 - 15	3	5
	16 - 20	15	25
	Above 20	11	18
Monthly income by selling Madhubani Painting	Less than 5000	25	42
	5000 - 15000	19	32
	16000 - 25000	12	20
	Above 25000	4	7

The Challenges Face by the Women Artisans Practising in Madhubani Painting

The women artisans face the challenges of finance, market, training, mobility but they got the opportunity in mass production of face mask which is in high demand not only in the Indian market but also in the foreign market. Many women started making face masks following the guidelines of the government in their own homes and handed them over to the middleman so that they could earn some money. In the lockdown they started portrait painting on the theme of pandemic and created awareness about the social distance and hygiene. After Pandemic, a face-to-face interaction was conducted in the month of November-December 2021 in Jitwarpur village, in Madhubani district while talking to artisans it was observed that they face challenges like lack of education, restricted mobility, training, unawareness about the market, most of the artisans especially the women depend on the middlemen for work and stiff competition.

- **Lack of knowledge about Market-**Most of the women artisans are unable to know how to deal with the customer as it requires communication skills and knowledge about the market.
- **Lack of finance** –Due to shortage of finance they are unable to purchase raw material and for expansion of their business they cannot get loan from banks.
- **Lack of education and training facilities-** Due to being less educated, neither they can deal with the customer well nor are they are excited for training facilities as they thought they are not capable to learn. They are not able to present their idea in front of people.
- **Stiff competition-** There is a lot of competition in the market. Artisans are not even able to face this competition especially machine-made product which makes more product in less time and its cost is also less than manual work.
- **Lack of innovation and technology** - Artisans lack innovation in designs they are familiar with the traditional art, but they are not aware about the contemporary and modern art. They don't have sufficient knowledge of modern designs which can be marketed easily.
- **Highly dependent on middlemen-** Most of the women artisans like to take work from middlemen because they feel comfortable in taking orders from them as they are the only one who can reach and sell their goods to the market, but most of the artisans complain about the middlemen cut their profit margin.
- **Lack of Infrastructure** – Most of the women artisans work within home or in safe workplace as they don't have the proper infrastructure facility and working condition.
- **Restricted mobility-** Due to security concern women are not able to go outside as there is a taboo arresting the rural women entrepreneur works within four walls.

SUGGESTION AND RECOMMENDATION OF THE STUDY

- In Jitwarpur village the artisans have adequate power supply, natural and man-made water sources. The Bihar government schemes ensure drinking water for the poor through tap rights at their homes, Har Ghar Nal Ka Jal. The schemes are successful, but there are many such houses where this facility has not been reached, the government should investigate this thoroughly.
- The government body supported the local artisans through various platforms like Dilli haat, Udyan Mahotsav Patna, Hunar haat etc. But the drawback of this scheme is that only those artisans prevail the services who possess artisans card and in government has Quota of certain percentage of national awardee and state awardee get first allotted seat

.The government should try to distribute more artisans card (The artisans card serves as an official proof of their identity and authorised to access the various government schemes related to skill training, access to credit, marketing and insurance) and more exhibition, trade fares should be organised by the government and non-government organization.

- The Provision for the micro credit facility to the artisans, especially women artisans.
- Most of the women artisans do not have smart phone they have basic dial up phone for communication only. They do not know how to operate smart phone although they want to learn but there was no digital training facility was set up.
- There should be workshop or training facility centre for them. Where they discuss the problem and get hand on practice with new motif design.
- Agencies such as Export Promotion councils need to focus on the specific area where marketability of certain product can be overseas, virtual platform should be provided to the Indian Art and craft organisation who are working for artisans.
- The product must have the artist's name so that they feel that they have made their identity through their work, and it will give the artisans recognition.

CONCLUSION

The Madhubani painting is one of the folk arts, which are the assets of the women artisans of Jitwarpur village as a source of income The Madhubani Painting is one of the traditional artform which is uplifted by the famous artisans not only in national but in international market. The sector was unorganized with no medical insurance, social and financial security. During the pandemic women artisans got an opportunity in mass production of reusable face mask which is highly in demand not only in the Indian market but also in the foreign market. Many artisans started portrait the painting on the theme of pandemic and created awareness to keep social distancing. But is still a lot of challenges faced by the women artisans, as they were not able to understand the market, innovation and technology and modern fashion world . The role of middlemen plays a vital role as they were totally depended on them for sale of product. The Government needs to organise more the exhibitions, where they can get an opportunity to showcase their artwork.

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HR 4.0- A Critical Review

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Abstract

Industry 4.0 has become a novel theme for management researchers and Business Economics disciplines and several contributions covering variety of issues and aspects have been published. There have been breakthrough changes in the political, economics and, social domain. Undoubtedly Industry 4.0 is transforming the future of jobs and work. Business environment is characterized by the acronym VUCA i.e. Volatile, Uncertain, Complex and Ambiguous. HR will have to step up to remain relevant. However, in management literature, a systematic formulation of all of these contributions is still lacking.

The paper attempts to study how HR practices have transformed across various Industrial Revolutions with special reference to HR practices- Recruitment & Selection, Performance Management, Employee Motivation, Talent & Development, and Compensation & Reward Management. It also attempts to study from the opportunities and challenges in implementing HR 4.0 in the organizations from the lens of HR. Research design used is descriptive and study is based on secondary data. Most recent literature retrieved from Research papers, articles, Reports and Blogs on HR 4.0 were referred to for data collection. The research is based on qualitative approach and the word clouds were prepared to identify prominent keywords characterizing phases of Industrial Development.

It helped to identify how HR practices have transformed across various Industrial revolutions. This study provides insights to the organizations and HR practitioners to understand the transformations in the HR practices and also how organizations must prepare themselves for this change.

Keywords: Word Cloud, HR 4.0, HR Practices

INTRODUCTION

It is imperative that the organizations embrace and implement changes in order to remain relevant in the ever-changing business environment. AI and robotization usher in the Industry 4.0 era. HR 4.0 streamlines automation and unification of data collection, information analysis, evaluation, education, performance improvement, and decision making processes in the domain of human resources. Industry 4.0 opens up a window of opportunities for organizations, and an optimum coordination of human potential and computer algorithms will pave the way for new industries and philosophy of work.

When industrial revolution started in the 18th century, significant advances changed the face of organizations and industries. Prior to Industrial revolution, most goods, including weapons, tools, food, clothing, and housing, were made by hand or with the help of work animals. With the advent of manufacturing processes at the end of the 18th century, that changed and mechanization was introduced. The progression from Industry 1.0 to the upcoming Industry 4.0 was a steep uphill climb. The contemporary fourth Industrial revolution (Industry 4.0) unveils a period of artificial intelligence (AI) and the Internet of Things (IoT). Digitization is so pervasive that businesses must be prepared for the unprecedented changes that technology will bring.

Human resources professionals play an important role in assisting organizations in preparation for the response the world of the fourth industrial revolution requires. Before delving into smart HR 4.0, it is necessary to define the industrial revolution.

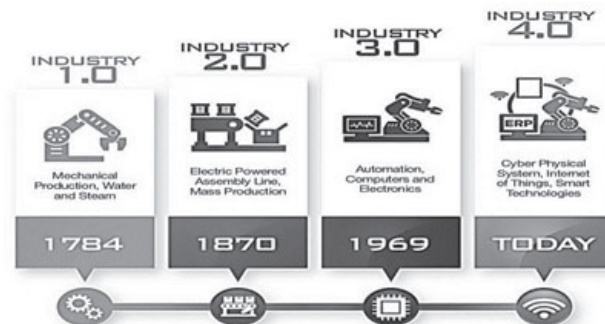


Fig 1.0

INDUSTRIAL REVOLUTION

English economic historian Arnold Toynbee (1852-83) was the one who coined the term “Industrial Revolution” to explain the Britain’s economic development from the year

1760 to 1840. Since inception the term Industrial Revolution connotes process of economic transformation rather than as a period of time in a particular setting. This explains why some areas, such as India & China did not begin their first industrial revolutions until the 20th century, while United States and western Europe, began undergoing “second” industrial revolutions by the late nineteenth century.

Industry 1.0- Eighteenth century saw the introduction of Mechanical production facilities. Water and steam powered machines gave impetus to mass production of goods. The first weaving loom was introduced in the year 1784. Owing to the rise in production efficiency and expansion of scale of production, small businesses grew from serving a small number of customers to large organizations with owners, managers, and employees. Industry 1.0 mothered an industry culture that prioritized quality, efficiency, and economies of scale.

Industry 2.0- The second Industrial Revolution termed as Industry 2.0, began at the turn of the twentieth century. This phase was triggered by the evolution of electrically powered machines played a pivotal role in this revolution. The underlying processes were augmented using various production management techniques such as just-in-Time manufacturing.

Industry 3.0- Advances in the electronics industry stimulated and helped fuel the third industrial revolution. The Programmable Logic Controller (PLC) was a groundbreaking invention that described electronic automation. Inventory management, shipping logistics, and product flow scheduling and tracking throughout the factory, were facilitated by software systems.

Industry 4.0- The Information and communication technology, ICT boom of the 1990s transformed how we communicated and exchanged information. ICT revolution resulted in paradigm shifts in the manufacturing industry and traditional manufacturing operations, straddling the line between the physical and virtual worlds. Cyber Physical Systems (CPSs) have blurred this line even further, causing numerous rapid technological disruptions in the industry. CPSs allow machines to communicate more intelligently with one another across virtually no physical or geographical boundaries. In order to make machines smarter, Industry 4.0 employs Cyber Physical Systems to share, analyze, and mentor intelligent actions for various processes in the industry. These intelligent machines are capable of continuously monitoring, detecting, and forecasting faults in order to suggest solutions.

As a result, industries can be better equipped and experience less downtime. The very same dynamic approach can be used in other industries, such as logistics, production planning, and time optimization, quality control, capacity utilization, and efficiency enhancement. CPPs also allow an industry to be fully managed remotely, adding a new dimension to the manufacturing process. It combines machines, people, processes, and infrastructure into a single interconnected loop for high efficiency management.

REVIEW OF LITERATURE

A study conducted by IBM Institute for Business Value in collaboration studied hundreds of global companies over the last two years and discovered that HR departments fall into three categories. Traditional HR 1.0 departments are concerned

with compliance, administration, and high-quality service delivery. HR 2.0 teams consider relocating toward integrated centers of excellence, with a focus on business training and empowerment partners to deliver solutions where they are needed HR 3.0, of which only 10% are companies have achieved, HR is transformed into an agile consulting organization that does not only provides efficient services, but also employs design thinking to push innovative solutions, cognitive tools, and organizational transparency

An extensive review of literature has been conducted to critically review the development in HR during the various industrial revolutions. Several research papers, articles, blogs have been thoroughly studied to critically review the transformation HR has gone through various Industrial revolutions. The focus of the review was limited to five key HR practices –Recruitment & selection, Performance Management, Employee Motivation, Talent Development, Compensation & Reward Management.

Table 1.0

S. no.	Recruitment & Selection	Performance Management	Employee Motivation	Talent & Development	Compensation & Reward Management
1	The first generation started as a space where information could be shared and read, with limited interactions between the content maker and reader.				
2	Strict recruitment procedures aimed at achieving effective job-person fit, resulting in better levels of performance.	Emphasis on performance improvement. Emphasis was on improving performance at the three levels including organizational, group and individual levels.	This phase was characterized by mutual ownership of performance management. The managers worked with close coordination with employees to achieve and sustain performance.		Managers are equipped to address performance concerns are given the knowledge and support they need to address performance concerns early on. The managers have access to sufficient resources to reinforce and reward performance. The positive reinforcement and continuous

					assistance helps individual employees to develop their competencies in the best possible manner.
3	The concept of probation was considered as a tool to effectively assess job-person fit. Managers now proactively anticipate and address performance issues.	Anticipating, adapting and responding to changes by organizations, groups, and individuals.	Timely and constructive feedback became the matter of concern in performance management. There was transition of performance management from a mere formal requirement to a strategic function Regular conversations between managers and employees became instrumental.		Organizations started employing an array of reward and recognition practices aimed at encouraging good performance, including peer recognition, and increased training and development opportunities.
4	Emphasis on individual development needs in terms of task, behavior, and dynamic capabilities requirements..	Performance agreements are able to adapt to changing conditions, permitting a clear link to be maintained between the achievement of business goals and the performance expectations from the individuals.	The agreements were tailored according to the individual employees, their unique expectations and context were considered to boost high performance.		

5			<p>Basic tools and environment was provided to the employees for completion of work effectively.</p> <p>Top Down approach was the preferred way of Communication was either top-down.</p>	<p>Training content developed in In house training content was developed.</p> <p>Traditional classroom training was preferred</p> <p>Training success was measured based on the number of classes delivered.</p>	<p>Compensations models based on tenure and role became increasingly important. Standard annual pay increases became the norm and statutory pay compliances were ensured by the organizations.</p>
			<p>This phase was characterized by one-way communication cascaded through managers</p> <p>HR performed all transactions.</p> <p>Employee input via structured feedback (for example, suggestion box surveys)</p> <p>Focus shifted to boosting and decoding Employee morale.</p>		

It is evident from the literature review that HR practices have undergone significant transformation from HR1.0 to HR 4.0. The future of HR is also very dynamic and the way ahead is full of opportunities and challenges. The above literature review is clearly indicating a need for in-depth analysis for a clear understanding how HR practices have transformed.

RESEARCH OBJECTIVES

The objectives of the study are:

1. To critically review the major changes in the following HR practices- Recruitment & Selection, Performance Management, Employee Motivation, Talent & Development, and Compensation & Reward Management.
2. To understand how HR practices have transformed throughout the various Industrial Revolutions.
3. To analyze opportunities and challenges for the organization in implementing HR 4.0 from the lens of HR practitioners.

RESEARCH METHODOLOGY

The study has descriptive research design. Data has been collected using the secondary data sources such as research papers, blogs, article from prominent HR magazines and various e-resources dedicated to HRM. An extensive literature review was been conducted to enlist practices considered for research during various phases of Industrial revolution. Data was analyzed by preparing Word Clouds using Word cloud generator. A word cloud is a collection of words displayed in various sizes. The bigger and bolder the word appears, the more frequently it appears in a given text and the more significant it is. These are excellent ways to extract the most important parts of textual data, from blog articles to databases. They are also known as tag clouds or text clouds. They assist users in comparing and contrasting two different pieces of text to identify wording similarities.

DATA ANALYSIS AND INTERPRETATION

Word Clouds are prepared for each of the five HR practices from HR1.0 to HR 4.0 with the objective of critically reviewing the major changes in the following five HR practices- Recruitment & Selection, Performance Management, Employee Motivation, Talent & Development, and Compensation & Reward Management during various Industrial revolutions.

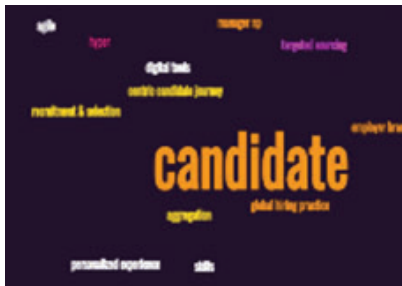
HR1.0 to HR4.0 – Recruitment & Selection Practices (Fig 2.0)



HR 1.0



HR 2.0



HR 3.0



HR 4.0

HR1.0 to HR4.0 - Performance Management practices (Fig 3.0)



HR1.0



HR 2.0



HR 3.0



HR4.0

HR1.0 to HR4.0 – Employee Motivation Practices



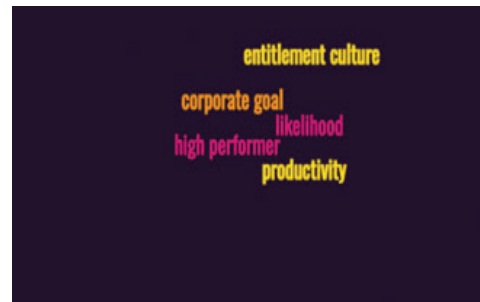
HR 1.0



HR 2.0



HR 3.0



HR4.0

HR1.0 to HR4.0 – Talent Development Practices (Fig 4.0)



HR 1.0



HR 2.0



HR 3.0

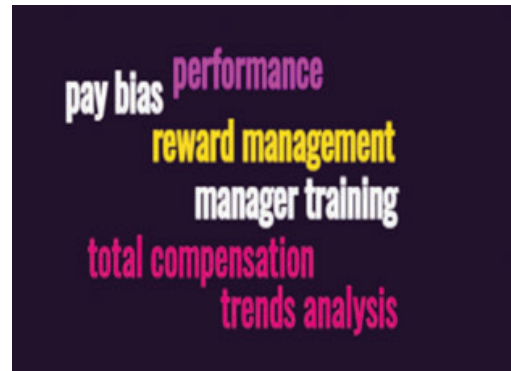


HR4.0

HR1.0 to HR4.0 – Compensation & Reward Management Practices (Fig 5.0)



HR 1.0



HR 2.0



HR 3.0



HR4.0

DISCUSSION

It is evident from the qualitative analysis done through word clouds that the HR Practices considered in the research have transformed drastically. **Recruitment & Selection** processes have drastically changed from Industrial Revolution 1.0 to 4.0. HR 1.0 revolved around Jobs, Jobs-person Fit. HR 2.0, web, candidates, tools are most important words. In HR 3.0 more focus is on Candidate, Personalized experience etc. whereas in HR 4.0 use of words like Artificial Intelligence, Search engines, Preference, Jobs are more common. **Performance Management** processes are more technology based, focus is on goal setting, and employee development with importance of performance feedback. Similarly, Employee **Motivation** practices are specific and clear focus is now more on corporate goals, Productivity and employee wellness. According to HR4.0 **Talent Development** is more technology based, e-learning is the buzz word, and learning contents are recreated to make it reachable, accessible and doable with emphasis on Adaptive and self-directed learning. **Compensation & Reward** Management practices have also shown significant improvement. Performance based pay, pay biases, importance of skills are a few changes which can be noticed.

Further based on the above detailed analysis of the blogs and articles it is found that HR practices have significantly changed over the years. HR 4.0 is quite different from traditional HR. In practice, this means that, unlike traditional HR, where the professionals' main functions were to pay salaries, control work hours, and perform primarily manual and bureaucratic tasks, HR 4.0 is focused on fronts such as attracting qualified talent, improving organizational climate, and other approaches that directly contribute to the company's strategic results.

HR 4.0 is essentially permeated by technology and aligned with new labor market scenarios, with particular influence from the Millennial Generation, which now holds leadership positions in organizations, and those who have followed.

The Internet of Things, Big Data, and Artificial Intelligence are assisting in the automation of most HR processes, resulting in more efficient and lean teams.

HR 4.0 can be described as a revolution in the field of human resources. Human resources is becoming more automated, focusing on strategic issues rather than manual, bureaucratic, and repetitive tasks, and cutting-edge technology applications are transforming traditional human resources into HR 4.0.

FUTURE IMPLICATIONS

It is evident that unanticipated global events, shifting employee needs, or simply emerging technologies are changing the ways businesses operate. Since the advent of HR 4.0 Lines between technology and people are blurred. The HR is undergoing a radical transformation. Even before the pandemic, an increasing number of organizations were inclined towards remote, hybrid and flexible working - this arrangement is now, of course, indispensable for many. HR is now the harbinger of change and attempts to build agility and resilience in the organizations.

The next decade may witness the rise of Gig workers, with fewer full-time jobs in the future as more people chose to pursue portfolio careers. Frequency of job changes is expected to increase, and workers will be required to constantly upskill and reskill themselves. The impetus to lifelong learning and unlearning redundant knowledge will take center stage. So HR needs to be prepared for uncertain times coming ahead by becoming contingent and change Champions and to prepare for any contingencies that employees and the organization may face in external and internal environment. HR policies and practices will need to be more agile, adaptable, and flexible. It is critical to be prepared when transitioning from physical to remote work or training employees to operate machines in a virtual environment. HR must develop agility and resilience in order to thrive in a constantly changing environment.

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Blockchain Technology in Securitization of Real Estate

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Abstract

One of the most notable innovations in the twentieth century was the security prelude. Security involves assembling individual assets, usually illegally, and using the pool as collateral for the release of a completely new set of financial security. Securitization is the process of converting one or more real sites into pecuniary tools. Securitization not only allows small investors to invest in real estate, but also offers improved prospects for the division of asset portfolios, and also increases the frequency of investment. In this paper I will include blockchain technology in securitization of real estate; blockchain will introduce a transformation that will allow real estate to be sold at the fastest and most economical way. With the rapidly expanding Digital India programme, one of the current government's main focuses, blockchain technology is gradually making a presence in India. India's first block chain exploration alliance was introduced to the banking industry in 2017. Now after Aadhaar card experience implementation, blockchain, the technology is tested in other non-financial areas service industries such as telecoms, health care services, science, travel, energy and real estate. Real estate processes can be shortened with blockchain. The success of blockchain, on the other hand, will be determined by the degree to which it is adopted by the public and receives the assistance and backing of government representatives.

Keywords: Securitization, Blockchain technology, Real Estate, Digital Campaign, Asset Portfolio.

INTRODUCTION

The proportion of the global economy that is comprised of the real estate sector is directly proportional to the value of goods and services. According to a data compiled by MSCI, the total value of the world's most prominent real estate investment market increased to \$ 8.5 trillion in 2017, up from \$7.4 trillion the previous year (University). The real estate investment market, though large, is relatively dominated a closed network of firms and organizations that can invest big, cheap, illiquid. Icon and blocked by a significant amount of conflict of interest and blurring. While there it has been an advancement in the digital age - especially as it relates to the flow of information as well setup and termination of operations - we are only in the first few steps towards digitalization (Goodfellow, 2017).

When it comes to the use of digital technology and the depiction of tangible assets in digital formats, there is still a substantial amount of growth that may be accomplished on the market (David, 2001).

These advancements will be driven by the digital securitization of real estate, often known as "tokenization" as well as enhanced processing that makes it easier to purchase and sell real estate and / or real estate stocks, process revenue streams, and record and finalise commodities transactions (Baum, 2021).

The buying and investing in real estate of the future will be characterised by increased liquidity, increased accessibility, and simplified writing and management of contracts. The technology behind blockchain will be largely responsible for driving these improvements. These technologies include decentralised and immutable trade labels, asset tokenization, business ownership and land title registration, and as a consequence, profits will open up markets to new investors and allow for a bigger number of investors, groups manage ownership, finance, and risk in the most effective way possible (Swan, 2015).

SECURITIZATION

The term "Securitization" refers to the process of transforming assets into securities, which are tradable financial instruments that can be purchased and sold on the financial markets in the same manner that stocks, bonds, and futures contracts are traded (liverpool). When discussing real estate, the term "sale of goods" refers to the process of acquiring funds from financial institutions like banks and other loan providers, then transforming that funding into securities that may be sold to investors (Carruthers, 1999).

BLOCKCHAIN TECHNOLOGY

A distributed software network known as blockchain can function both as a digital logger and as a system that enables the safe and secure transfer of assets without the need for a third party to mediate the transaction. In the same way that the Internet is a technology that assists with the flow of digital information, blockchain is a technology that helps with the flow of digital currency or value units (Shubhangi Aggarwal, Basics of blockchain, 2020). On a blockchain network, anything from financial data to worldwide titles to votes can be tokenized, stored, and transferred with one another (Swan, 2015).



Figure 1 Real- time application of blockchain in Indian real estate.

Source: Colliers International India Research

INDIAN REAL ESTATE AND BLOCKCHAIN - THE CURRENT ECOSYSTEM

The usage of blockchain technology in the real estate industry can range from searching for available properties to signing smart contracts (Basit Ali Bhat, 2022). Utilization of blockchain technology is in its early stages of growth in India. The real estate market, however, has shown signs of improvement in recent years (Magnani, 2021). For instance, a few provincial governments are keeping an eye on digital land reform records, while some start-up businesses have already gone off the ground and are offering blockchain-based services that are only partially comprehensive (Chamola, 2020). (see Figure 1).

The majority of real estate transactions in India are still handled manually, which contributes to a lack of transparency in the market (though this is true of many other markets, including developed ones). Once information is added to the blockchain system, it can neither be changed nor removed (lib). This is made nearly impossible by blockchain technology. The utilisation of this technology will make it possible for government authorities to keep a record of real estate transactions and all other enhancements that may be made to the system's level of openness. The blockchain relies on a decentralised digital database that permanently stores customer transactions (Thakur, 2020).

TOKENIZATION (“DIGITAL SECURITIZATION OF REAL ESTATE”)

Investors in asset management are always on the lookout for new strategies to increase or preserve their liquidity, which in turn enables them to build positions and control risk. For example, a pension fund may already own a few large commercial buildings in one city, but as part of a diversification plan or to add more assets to its portfolio, the fund may decide to expand its holdings to include buildings in another city. They might not be interested in purchasing a full structure or commercial block. Instead, they may wish to purchase a smaller piece of the protected area.

In a similar vein, a person can be interested in investing in real estate but be unable to do so because they lack the financial resources necessary to buy or maintain residential or commercial property. Even while there are investment vehicles accessible to investors to invest in real estate, such as REITs, these investment vehicles do not provide the exact information that a lot of investors would like. An investor may prefer to put their money into one or a few properties in a particular area, rather than a random assortment of unrelated remote buildings.

Making any investment currently is problematic because overhead and the market to protect building components take up valuable time, cost, and intellectual sharing. Token confirmation of real estate via blockchain, as well as markets that are empowered for tokens and trades, however, can make these types of investments possible (Andoni, 2019).

CURRENT PROBLEMS OF THE REAL ESTATE INDUSTRY AND FOR INVESTORS

The real estate sector is now dealing with a number of issues, many of which will become even more apparent during the COVID-19 era. First, there are procedural issues brought on by the high volume of project-related financial transfers and risk factors, which have led to problem areas. These issues can be mitigated and addressed with the use of blockchain technology (Vinay Thakur, 2019). Usually, the bigger the project, the bigger the risk. (Jagun, 2020)

Therefore, the idea of using financial management tools that are based on a platform is very significant within the scope of the project being undertaken by the institution.

First and foremost, the real estate process and the management process both require an increase in the number of experts. These include lawyers, traders, financial organisations, and property managers. This can result in higher expenditures for everyone involved, including the buyer, the tenant, and the owner. The duration of time necessary for these processes, as well as the number of organisational conflicts that arise throughout these processes, grows in proportion to the number of mediators involved. It's also not assured that the coordinators trust each other, thus internal audits and audits can be done in various steps to prevent mistrust. So inactivity is good on the agenda. The value of blockchain technology is particularly evident in this area since it is the most efficient method now available for establishing a global system of trust and conducting business without the risk of armed conflict (Al-Saqaf, 2017).

In addition, there are challenges that arise as a result of the immovable position and the reliance on the specific locations of retail stores. Natural disasters, construction delays, or even construction faults can have a direct influence on the funding for a project. This is especially true when the procedural inefficiencies that were discussed before are added

to the equation. Blockchain technology is unable to assist in decreasing physical dangers; nevertheless, it can make the process of problem-solving more efficient and effective from a cost viewpoint (Pan, 2021).

The illiquid nature of real estate for sale means that, for instance, a partial sale is not economically viable due to the administrative or organisational restrictions involved, and in some situations, deletion is not conceivable. This presents a significant challenge for property managers who work in the real estate industry. Tokenization, one of the most fundamental approaches available in a blockchain environment, may be of assistance in this context (Konashevych, 2020).

BLOCKCHAIN-BASED TOKENIZATION OF REAL ESTATE

Blockchain technology allows the sale of digital assets; including real estate token shares, affiliate markets, and the ability to transform traditional housing subsidies and the associated payment processing and liquidity management downside. In charge of this: the concept of tokenization (Anderson, 2018).

EMERGENCE OF BLOCKCHAIN-BASED TOKENIZATION: REASONS

No Geographical Limits

One can invest in a property in any part of the world without having to visit it in person. By creating asset tokens in the blockchain, investments are stable, fast, and rapid (Elendner, 2018).

Substituting Medium

To reach an agreement, the real estate business usually takes days to months. External agencies are interested in verifying contract documents and creditworthiness of the lender, which contributes to additional operating costs. However, making tokens reduces the need for powerful blockchain coordinators to provide consistency and accountability (Jyotsna).

Enabling Fractional Ownership Distribution

They are very fragmented as the buildings become digital. Therefore, customers can use a small amount of token funds according to their needs. You could buy just 10 percent of the retail space, for example. It greatly reduces barriers to joining the market of billions of consumers (Graglia, 2018).

Improved Investment Liquidity

Moving the investment path to the blockchain creates a spirit of low stress. The creation of asset tokens allows for automatic transfer of ownership while maintaining compliance. With less complexity and cost, token goods provide the ability to participate in regulated markets for fiat money and P2P trading, which will increase revenue (Furlonger, 2019).

Fast and Effective Transactions

The trading process is automated because smart contracts enable the sale and conversion of tokens. With no coordinators required, automation will reduce the pressure involved in buying and selling. As a result, it strengthens contract performance at reduced processing costs (Al Sadawi, 2021).

From the above factors, we can conclude that the making of tokens will remain here for several years to come and will offer a wide range of opportunities for a wide range of assets.

BLOCKCHAIN CHALLENGES : ISSUES WITH ADOPTION AND USE

Token real estate transactions offer up channels to entirely new financial instruments and provide a new source of revenue; nonetheless, it is difficult to anticipate that widespread acquisition will take place in the near future.

Conceptual Challenges

Working in a world-divided Web3 is an idea from our current situation. In most cases, there is no central authority and there are many layers as well parts. There is a written document that is not legally binding, wallets, proof of ineptitude, proof of operation, proof of stake, mining, and much more besides (res). This is the deviation from the present performance and the current technology, and it takes some time to understand it, learn how to use it securely, and become proficient with it.

For instance, there is still a lot of fear in the user community when it comes to information about interacting with cryptocurrencies and crypto assets (such as CryptoKitties and other collections). Again, users must install browser plugins to choose a wallet. They must become accustomed to using both private and public keys, in addition to the fact that you must have the appropriate long hexadecimal addresses. A transaction can be sent in the wrong direction due to a single note error or the exchange of several currencies (for example, sending ETH to an address that accepts BTC). This puts investments in sales at risk.

This is not a new issue. In the early days of the internet, people had the same difficulties in comprehending what a URL was and figuring out how to make safe credit card purchases. It occurs with the discovery of cell phones with small data representation challenges screen or to make it easier to enter data. Current blockchain interface challenges does not exist invincible, engineers and users just need more time and effort to make mistakes and testing in order to improve the process and transform what has become a word of the concept into a subtle change to do things differently (Batubara, Challenges of blockchain technology adoption for e-government: a systematic literature review. In Proceedings of the 19th Annual International Conference on Digital Government Research, 2019).

Trust Issues

Similar to the conceptual issues is the reliability of this new technology, especially when converting cash to cryptocurrency and trading in it. Most people can see the value in investing in real estate, but they get caught up in the pursuit of their hard-earned cash, which they are not sure if they really want to invest, in its annoyance and perceived danger. Circumstances like the DAO hack, Mt. Gox running out of money, or the Parity wallet crisis don't inspire confidence, which is why crypto custody solutions are a hot topic and a vital component of the puzzle.

Additionally, we should be aware that although blockchain technology, security tokens, and encryption help verify the status and authenticity of work records, they do not eliminate the possibility of fraud, particularly at entrances or system edges. This is something that

we should be mindful of. For instance, the premises that are under suspicion may have been involved in the registration of the deed in some way; this would be the case if there were an insufficient number of checks and balances at this gate. Another security issue is that secret keys can be stolen, allowing an unauthorised user to sell or buy property if there aren't adequate controls in the wallets/accounts at the end of the deal. As was mentioned before, the passage of time, as well as the implementation of better working / safe contact and security solutions, will help reduce the impact of these hurdles (Akram, 2020).

Regulatory Challenges

In spite of discussions about global markets and a growth in the number of investment prospects, regulatory hurdles continue to be a problem at the national, provincial, and even regional levels. In many places, token production is the same for the security of an asset, which means its process in which the property is illiquid is turned into security. The procedure must receive regulatory permission, and any transactions that are the result of it (as well as trading groups) should be subject to the regulations and laws that govern the securities industry.

In the US, buying tokens may require approved investors to block who can acquire tokens, reducing the supply of investors.

There is a possibility that token suppliers may be required to comply with security rules, which could include security arrangements. At the moment, security arrangements in the US are typically only available to banks, registered traders, registered dealers, and various other individuals or enterprises (Batubara, Challenges of blockchain technology adoption for e-government: a systematic literature review. In Proceedings of the 19th Annual International Conference on Digital Government Research, 2018).

COMPLEXITIES AND DEPENDENCIES

Changing the way transactions are processed and recorded is not a straightforward endeavour because of the integration and complexity of the data and controls needs for real estate and housing. It's one thing to paint the future - that is, to put it into digital as a whole the process of making it as consistent and transparent as it should be and can be - it is another way of being able to use it without any important communication and local institutions.

In order to create a token of property, whether it be a home or a rental property, an individual will need to create the property's intangible digital record. This record will explain the property's ownership history, links, property taxes, and other information pertinent to the token. However, this digital record that is based on blockchain technology will need to have a link to existing records and / or the legal recognition of the parties engaged in the transaction with the authorities in order for it to be able to control the legality of the transaction.

Some governments, territories, and regions are taking practical steps to reach this position and enter it; this is an important first step in digital representation. On the other hand, users in certain regions will be making duplicate records for properties that already exist in the land register when they create new records for properties that are identical to those already kept there. This increases overhead, retention, and confusion in case of record conflicts (Keivanpour, 2020).

VOLATILITY AND MARKET RISKS

Finally, market volatility is a problem that must be dealt with. To demonstrate how investors can occasionally overreact to new information and market downturns, one need simply consider the flash crash and volatility. In important and substantial ways, cryptocurrencies have displayed both bull market and bear market behaviour in their markets. The real estate market has not responded to shifts in market sentiment at the same pace as other markets, most likely because buying and selling property is against the law. Real estate and commercial markets do, in fact, experience “hot” and “cool” phases, which continue to exist for months and years and only have an impact on the people actively engaged in the market in a given country and region. (Homeowners, although disappointed with any decline in prices, may be able to pull the decline because they do not have an immediate intention to sell their home.) the potential for reduced transaction conflicts and the growing speed, may be significant.

And while we anticipate initially strong volatility, often for inexplicable reasons, we also anticipate volatility that is more tailored to individual stocks and more closely aligned with typical economic trends (Janssen, 2020).

CONCLUSION

Despite the obstacles, blockchain disruption is what the real estate market throughout the world desperately needs in order to bring about the long-awaited change. The fact that it is naturally rapid, resistant to disruption, and transparent there gravity draws investors not only from the centre investors and government institutions but also from trade investors.

In the meanwhile, the success of blockchain technology is dependent on the widespread acceptance of the technology by businesses and government officials who are both open-minded and prepared for the future of the real estate market. We anticipate a further transformation of industry as a result of the implementation of this technology. The blockchain effect can only be realised after all relevant industries have completely integrated blockchain technology into their day-to-day operations. Since 2015, we have witnessed major corporations like Microsoft, IBM, and KPMG harnessing the power of this game-changing technology in their businesses. For instance, ABN Amro and IBM have collaborated to launch a blockchain testing programme targeted toward real estate clients. The programme makes use of IBM’s “Torch app,” which allows data to be uploaded and shared with the appropriate stakeholders. When it is matched with next-generation technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI), we anticipate that blockchain will lead to real-world transformations that will reach the corporate sector. We anticipate no issues over the whole real estate life cycle (red). Every corporation ought to commit some of its resources to taking part in the process of transforming the business environment.

We recommend that many players in the industry get themselves ready to accept and employ blockchain tools in their operations. Because hand-held technology is not the least expensive answer nor the simplest modification of already existing processes, blockchain adoption in the real estate industry will take some time before it is completely realised. As the market and the many players continue to develop over time, we anticipate that it will go through a significant number of shifts and modifications.

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A Study on Changes in Job Descriptions: Pre and during COVID-19 Pandemic

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INTRODUCTION

In 2022, it is more than two years since the Covid-19 (Coronavirus, SARS-CoV-2) pandemic engulfed the world and left a trail of horror at a global level. COVID-19 needs no introduction since the world has suffered drastically due to the pandemic. It not just left behind a trail of death and devastation but also had a substantial impact on the jobs and the way people used to work during-COVID-19 times. The COVID-19 pandemic gave rise to unemployment, mass layoffs, forced furlough to name just a few and this disturbing trend was global. With the global pandemic and restrictions on people's movement, and lockdowns, both employers and employees had to quickly adapt themselves to the new normal of working from home, competently as well as productively. The major shift in the way people used to work in the pre-pandemic time led to exceeded expectations from the candidates, both experienced and inexperienced. The change was apparent and the trend was global. Hence the paper attempts to analyse the impact of COVID-19 on the job-description of various job profiles.

However, the pandemic and the forced work-from-home schedule came with few positives as well. The families could stay together along with the work, commuting time was saved and thus was devoted towards enhancing productive office time. Lockdowns and limited commutation helped mother nature as well. It is possible that these major adjustments to work status and working environment may change activity behaviors as well. For example, some employees utilized their time saved from commuting in enhancing their productivity while some just increased their sedentary time.

REVIEW OF LITERATURE

The pandemic was a challenge in every form for the nations, companies and people globally. The pandemic was the force behind bringing in the new normal, making people adapt to it, it has literally transformed the way we worked. Challenges are several and exist in various forms for example after the layoffs, forced furloughs, unemployment challenges that their peers faced, companies are experiencing a lower sense of belongingness amongst its employees, challenge in the form of effective performance appraisal, no specific limit to work and time of work, business uncertainties and the unskilled workforce in terms of IT skills, etc.

Changes in HR inventory/JD/JS pre-Covid-19 and post-Covid-19 according to various research papers and journals:

- The advertisements cited during this period specifically wanted the work from home competencies, in addition to the job requirements.
- Evidence suggests that the demand for technical skills, given the work-from-home schedule, has shown a strong upward trend.
- Communication skills, and the ability to work effectively in teams has also been in high demand.
- The pandemic also has propelled automation and AI at various places thus putting a challenge for prospective candidates.
- According to research by McKinsey and Company, 2020, jobs with higher physical proximity will undergo change post-pandemic which will have a lasting impact on other profiles and hence business models as well.
- In another research by McKinsey and Company, 2020, it was found that a unique mix of occupations may emerge after the pandemic across the economies.

The changes and challenges that have emerged because of the pandemic forced the employees to adapt to the new normal as well as the organisations to make the employees technically enabled to work from remote locations effectively. However, this development was a major force behind the advanced recruitment techniques as well (Bartik et al., 2020, Montenovio et al., 2020). The pandemic brought in challenges in the form of job losses, globally as well as its negative impact on the GDP, which was “much worse than during the 2008-9 financial crisis” (International Monetary Fund 2020) The International Labour Organization (ILO) estimated job losses at a vast scale across the globe and bankruptcy of a sizeable number of companies during the pandemic (International Labour Organization 2020).

The pandemic and resultant lockdowns forced people to stay home and work from there itself; while the organisations had to quickly adapt to this new normal and make unplanned but much-required investments into the information technology to make the processes smooth and functional. (Waizenegger et al., 2020, Venkatesh, 2020, Dwivedi et al., 2020). Though at remote locations, the employees met each other through video conference solutions which were in huge demand during lockdowns and later as well. The demand was not only in offices but in schools, colleges and universities as well which required a trained staff (Neate, 31 March 2020, He et al., 2021, Iivari et al., 2020) and hence either the staff, across functional areas were either to be upskilled or replaced through

fresh recruitments. The usage of the internet saw a dramatic change and high demand during this period (Koeze and Popper, 7 April 2020) as it was being used for professional as well as personal reasons. This forced the regulators to urge service providers like Amazon and Netflix to work with reduced bandwidth (Kang et al., 26 March 2020). With these challenges in the background, the study attempts to find how these developments influenced the Job Descriptions at the entry-level.

RESEARCH METHODOLOGY

The study is based on secondary data sources which were accessed through websites that specifically cater to jobs. Job portals like Naukri.com, Timesjobs.com, Monster.com, and A social networking site LinkedIn were accessed. Limiters were used to make search specific. Jobs two years prior to Covid-19 and two years since then were searched and analysed. Research papers catering to changes in jobs were accessed through Google Scholar. The keywords entered were job description, COVID-19 pandemic, work from home, WFH, and technical skills. The limiter used on job portals to constrict search were years between 2020 and 2022, city, domain-specific job descriptions like HR, Marketing, Sales, Operations, IT, and Finance in addition to other technical and non-technical jobs. This was searched for only four years. Jobs onsite, offsite, and hybrid mode were also searched. The limiters were used to search the Job Descriptions at the entry level only.

ANALYSIS AND INTERPRETATION

The difference in Job Descriptions Pre and Post Covid-19 2020 vs 2022

It was found that there was a shift in job descriptions pre and during COVID-19 which are summarized below in a tabular format. The job descriptions have been pasted here as such without making any changes to them

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
	2018-19	2019-2020	2020-21	2021-2022		
Marketing						
Marketing Executive	Devising and presenting ideas and strategies, organizing events and product exhibitions	Handle all the activities related to Marketing, analyzing, and investigating price. Market demand and competition, devising and presenting action plans.	New ideas and strategies for generating new Business for Company.	Monitoring performance, Maintain relationships with digital media agencies to ensure collaboration in promotional activities.	Naukri.com	It is found that JD for 2022 than 2018-2021 were different and more well designed and had emphasis for digital platforms as during COVID-19 the technology usage has witnessed an unprecedented growth.
Opportunity For Fresher Into Sales And Marketing	Graduates & Post Graduates who aspire to build themselves as leaders in the industry.	We are looking for a talented Sales Marketing Executive to undertake marketing projects for the benefit of the company.	Dynamic & Hardworking Ambitious & Positive Thinker.	He will organize digital creative campaigns and promotional events that can make a difference for our company's success	Naukri.com	It is found that more fresher's jobs were offered than pre Covid and yet again the focus was on digital abilities.
Urgent Hiring For Marketing And Management Role	Graduates & Post Graduates who aspire to develop themselves as leader in the industry	Monitor competition by gathering current marketplace information on pricing, products, new products, delivery schedules, and merchandising techniques.	Dynamic, Hardworking Ambitious & Positive Thinker	Resolve customer complaints by investigating problems; developing solutions; preparing reports and making recommendations to management. Should be technologically sound.	Naukri.com	It was found that the jobs are being offered to freshers and how the expectations from the freshers have increased with each passing year. During COVID-19, yet again technical competence was required.

JD/JS For	Pre-Covid	During-Covid		Source	Analysis
Hiring Fresher's For Business Management	Managing Brand Sales and Marketing campaigns Closing deal through effective communication strategies .	Strong network of existing client relationships is a plus Develop suitable sales presentations and materials, writing skills and explaining our existing services to the clients.	Strong negotiation, influencing skills, and an ability to persuade at all levels of an agency or client.	Naukri.com	We can see the rising expectations in a span of four years from freshers. The period during COVID-19 had an additional requirement of possessing technical skills as well, in addition to other competencies.
Junior Digital Marketer	Should manage multiple, concurrent projects & initiatives. Excellent communication.	Provide creative ideas for content marketing and update website Measure the performance of digital marketing efforts using a variety of Web analytics tools (Google)	Analytics, Web Trends etc) Required Experience, Skills and Qualification	Naukri.com	It was observed that where marketing executives were required to possess technical skills, in the digital marketing profile expected good presentation and writing skills in addition to its core technical skills. The JDs have witnessed a dramatic shift during the COVID-19 period.
Sales					

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
	We are looking for a talented and hardworking candidate for the post of IT Sales Executive with excellent communication, comfortable reaching out to customers to demonstrate our services, products and Negotiate through email, and phone	Handling Sales for Karnataka Sales of Molecular Reagents and Equipment's New customers every quarter up to 5	Proper coordination in between sales / service Coordination with Application Support team regarding complaint resolution and sample handling	We are looking for a talented and hardworking candidate for the post of IT Sales Executive with excellent communication, comfortable reaching out to customers to demonstrate our services, products and Negotiate through email, and phone.		
IT Sales Executive					Naukri.com	It is found that sales JD for IT did not witness much change during the given period.
Assistant Manager - Sales	Meeting with clients (on field) or responsible for institutional sales Demonstrating and presenting products of our company Establishing new business / Client acquisition and retention Maintaining accurate records with respect client data	Obtain and generate leads and set new meetings with prospective US/ Canadian clients in the IT field.	Make cold calls to leads generated from trade shows, networking, strategic accounts, prospective clients, etc. Manage entire new business development pipeline from initial sales call through close.	Call Existing And Potential Customers To Inform, Influence And Sell The Company's Products And Services Accurately Record Details Of Customer's Purchase Orders	Naukri.com	A change in profile during COVID-19 was witnessed, rather than meeting clients, emphasis is on calling the prospective clients and generate leads.

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
Business Development	Minimum 6 months of Sales and Business Development Experience in any industry. Should be having good communication.	Prior experience in IT Sales, Solution Selling, Website, Software & Applications and Project Management is a must.	Obtain and generate leads and set new meetings with prospective US/ Canadian clients in the IT field. Make cold calls to leads generated from trade shows, networking, strategic accounts.	Lead Generation activities using LinkedIn, E-Mail Marketing, Cold Calling and Client References. Should be passionate about joining IT Staffing Industry.	Naukri.com	A major shift noticed during the period of COVID-19 was using most of the available digital platforms during this period for generating leads.
Tele Sales Executive In Bangalore	Making sales calls, continuously updating our CRM database, and meeting sales targets. Contacting potential and existing customers on the phone, by email - Building and maintaining a CRM database	Schedule Sales appointments for the Sales team by managing our existing relationships and by generating new business opportunities for Netcom Learning Invest time in prospecting and lead generation to fuel call/ visit outcome.	Making sales calls, continuously updating our CRM database, and meeting sales targets. - Contacting potential and existing customers on the phone, by email - Building and maintaining a CRM database. - Excellent customer service and sales skills.	Inside Sales Ability to perform under pressure Strong analytical skills Written and verbal communication Collaboration and interpersonal skills Negotiation skills	Naukri.com	The profile has witnessed additional responsibilities and skills during the COVID-19 period.
Human Resource						

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
	Ready to call 80 to 150 No. per day Ready to achieve targets Good observation skills ready to take challenges Good Multitasker	Ability to work well in a team Ability to handle disputes Ability to manage multiple stakeholders	Recruitment Process Design Sourcing Problem-solving skills Ability to establish strong client relationship	End to End Technical Recruitment Good understanding of IT Technologies. Good exposure in C2H and permanent hiring, expertise in Job assessment, Sourcing, Screening of resume, Initial screening Interview and follow-up		
Hiring For Female HR Recruiter					Naukri.com	The profile has seen a dramatic shift during the COVID-19 period with major focus on IT skills and technical recruitment; in addition to other desired skills.
HR Generalist Executive	EPF, ESI, Bonus, Gratuity Statutory Compliance. Designing Salary Breakup . Payroll Processing, HRIS Attendance & Leave Training & Development, Appraisals Recruitment, Induction On boarding & Exit	EPF, ESI, Bonus, Gratuity Statutory Compliance. Designing Salary Breakup . Payroll Processing, HRIS Attendance & Leave Training & Development, Appraisals Recruitment, Induction On boarding & Exit	EPF, ESI, Bonus, Gratuity Statutory Compliance. Designing Salary Breakup . Payroll Processing, HRIS Attendance & Leave Training & Development, Appraisals Recruitment, Induction On boarding & Exits	Attendance & Leave Training & Development, Appraisals Recruitment, Induction On boarding & Exits	Naukri.com	Not much change was noticed in this profile except for work-from-home during COVID-19 period.

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
HR Operation Executive	Execute the on-boarding process and induction for newcomers and take care of joining formalities. Occasionally working with backend team to support BGV tasks for other clients. New Recruitment	Hiring and Attendance management in SAP or Zing HR Managing Employee Personal File Knowledge and Worked for Time and Attendance Issue Letter From HR Knowledge of PF, ESIC, PT, Statutory compliance Professional in MS Office	Support in Payroll & FnF Maintain & Update Employee Documentation & Records Master data Management	Employee letters Issuance (offer, appointment etc.) Liaison with Finance team & external vendors for payment	Naukri.com	Not much change was noticed in this profile except for work-from-home during COVID-19 period.
HR Recruiter Talent Acquisition	Independently manage end to end recruiting process. -Responsible for Business Hiring & Stakeholder Management. -Hands on experience and in-depth understanding of Sales/ Non-Tech hiring. -Review requisitions, understand hiring needs and conduct search to identify suitable candidates	Anchoring & partnering with Search firms to ensure right talent acquisition. Focused hiring projects and drive for the business. Ensure hiring and anchoring of right talent in the organization	End to End operations of HR. 2. Knowledge of changes in Compliances and government regulations . Microsoft Office; Software analysis and workings .	Preparation of weekly and monthly reports in regard to recruitment	Naukri.com	Not much change was noticed in this profile except for work-from-home during COVID-19 period.

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
HR IT Recruiter	End to End Technical Recruitment Good understanding of IT Technologies. Good exposure in C2H and permanent hiring, expertise in Job assessment, Sourcing, Screening of resume, Initial screening Interview and follow-up	Must have hands-on experience in IT Recruitment at all levels. Should have basic knowledge about the technologies and, could understand the JD.	Handling Pan India Recruitment Managing joining formalities, F&F, releasing offer letters, appointment letters, relieving letters etc. Managing the SUMHR portal Preparing yearly Increment and promotion letters under the guidance of Manager – T &C.	Must have good experience in Sourcing, screening of CVs as per the requirement. Technical skills a must.	Naukri.com	Not much change was noticed in this profile except for more advanced technical skills during COVID-19 period.
Finance						
Finance Assistant	Excellent analytical and decision-making abilities. Good Command on Excel.	Only applicants who are interested to work from Institution Campus (Offline) need to apply. Teaching Demo and Technical Interview will be held	Online or Offline in Bengaluru Campus. Shortlisted Applicants need to join us immediately (or max within 30 days).	Communications Skills Time-management skills Ability to handle confidential information	Naukri.com	Shift observed from purely offline requirement to online work as well as hybrid model being offered for this profile.

JD/JS For	Pre-Covid		During-Covid		Source	Analysis
Payroll Executive	Payroll process, Deposit of ESI, PF, tax, etc. including returns on timely basis. Accounting of salary voucher, MIS and ability to work on payroll software. Good in excel.	Responsible for revenue reporting, accounting and handling end to end reporting. Payroll process, Deposit of ESI, PF, Ptax, etc. including returns on timely basis.	Perform variance analysis for revenue and expenses and state the reasons for variance. Responsible for payroll MIS reporting, accounting, and preparation of payroll schedule.	Payroll process, Deposit of ESI, PF, tax, etc. including returns on timely basis. Manage the process for weekly/monthly billing, both the re-billing of client disbursements and the billing of management fees to clients.	Naukri.com	Not many changes were observed in this profile except some incremental ones.
Accountant	B.Com/M.Com, having 5 to 8 yrs. working experience with knowledge of tally, GST, TDS, Purchase bill entry, vendor payment processing, bank/party reconciliations etc.	Check figures, postings, and documents for accuracy. Organize, secure, and maintain all files, records, cash and cash equivalents in accordance with policies and procedures.	Record, store, access, and/or analyze computerized financial information.	Classify, code, and summarize numerical data to financial data to compile and keep financial records, using journals, ledgers, and/or computer	Naukri.com	Basic accounting competence required for this profile. No change observed during the COVID-19 period.
Senior Finance Executive	Position is responsible for handling Accounts Payable activities, which includes invoice processing of PO Invoices, Non- PO Invoices, debit memos, credit memos etc. Should be a team player.	Requires knowledge and experience in own discipline; still acquiring higher level knowledge and skills	Builds knowledge of the organization, processes and customers. Solves a range of straightforward problems	Analyzes possible solutions using standard procedures. Receives a moderate level of guidance and direction. Employee reimbursement process knowledge. IT skills a must.	Naukri.com	A shift in profile in terms of possessing sound IT skills was observed.

FINDINGS

The study attempted to understand the changes in the Job Descriptions of various profiles that may have occurred due to the pandemic, COVID-19. It was found that majorly all the profiles preferred technical skills in addition to domain-specific knowledge. It was also noticed that the profiles required greater competence and expertise even for entry-level profiles at the onset of and during the COVID-19 period. One major shift that was observed was work-from-home opportunities as well as hybrid model even after the lockdowns were over and establishments gradually started opening for work from office or offline mode.

CONCLUSION

Job profiles of the sector were analysed for this study. The duration taken was pre and during the COVID-19 period. The study highlighted the developments in the job profiles over a period and how they witnessed incremental changes during the pandemic.

The results show an upward trend in work-from-home practices during the pandemic in the job advertisements. The job profiles that were analysed did show a substantial boost in IT-operations-oriented skills. It can thus safely be concluded that the now upskilled, more technically sound and competent candidates are required even for entry level profiles.

DISCUSSION

The study attempted to make a comparison in some basic job profiles for a period of four years, two years prior to the pandemic and two years since the pandemic. It was observed that in the past, not too early but just two years back, the job profiles for various positions at the entry-level were not so demanding in terms of technical and other skills. It was found that during the two years since the pandemic, there have been changes one would not have expected. The Job Descriptions for various entry-level profiles became more specific in terms of their requirements and even expected more competence and skills at the entry or fresher's level. Competence in IT skills, confidence in MS Office, digital ability, and adaptability to change and flexibility in terms of being able to work in any form; viz; offline, online or hybrid have been the major developments in the Job Descriptions during the pandemic. Since it has already become a new normal, the next normal shall be acquiring advanced knowledge and skills to survive professionally.

RECOMMENDATIONS AND SUGGESTIONS

The findings indicate that the pandemic has been a catalyst for some permanent changes in the Job Descriptions and these will remain or will be more demanding in the future in terms of competencies. Hence, it is recommended that the skills of prospective employees may be enhanced for both freshers as well as experienced employees. They must be trained properly in IT skills, and technical skills and be made more adaptable to the changes that will come in the future. Work from home and advanced technology usage has reduced the dependence and this trend will be an important factor in the next normal. Thus, it is important that the employees, current and future understand this complexity well and develop themselves accordingly.

MANAGERIAL IMPLICATIONS

The findings of this study will help employers, as well as employees, understand the requirements as well as the challenges that have been brought about by the pandemic, globally. It will also help them to prepare themselves for the future.

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Digital Financial Services: Emerging Issues and Challenges

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Abstract

A financial market is one of the economy's most versatile industries and plays a dominant role in economic development. A financial market is a platform for trading various securities and derivatives without barriers. The density of the modern financial market, its reliance on technology, the heightened interconnectivity, and increased dependency on digital financial services have created widespread opportunities for cyber risk and have turned out to be the biggest challenge faced by online and digital financial transactions. Cyber risk has emerged as a key threat to financial sector operations, followed by recent attacks on the capital market. The World Economic Forum July 2017 report estimates that a single global cyberattack could result in damage of USD 121 billion. Not only financial losses, but hackers can also disrupt business, financial markets and contribute to a general loss of faith. This paper aims to explore the various facets of cyber risk challenging the Indian digital financial market operations by analyzing the financial market structures and functioning of cyber security counter measures and the different types of cyber security breaches that have happened in the Indian financial market. The other novel contribution that is outlined is a comparative analysis of European Union cyber-resilience tools with Indian and compares the factors that each jurisdiction employs to offer stronger protection against data security issues.

Keywords: Cyber risk, Digital financial services, Financial market, Cyber security, Cyber laws.

INTRODUCTION

The Indian financial industry has, over the past few decades, become obsessed with technological advances. Digital financial services are a significant financial resolution for developing the financial market. Digital Financial Services can be interpreted as the combination of financial services accessed and transferred through certain virtual pathways such as mobile phones and the internet. (Main, 2021) Digital finance allows seamless transactions across all markets. This growth in the digital payment system has increased financial market infrastructure vulnerability to cybercrime.

The very concept of cybercrime consists of all criminal offences that are either attempted or committed against or through an information system or communication network (Neyret, 2019).

Cyber risk is the exposure of sensitive and confidential information to the unscrupulous activities of cyber criminals and has become one of the most serious threats to the financial industry. During the pandemic, businesses employed large amounts of remote access, which significantly increased the threat landscape. According to a joint study by the International Organization of Securities Commissions (IOSCO) research department and the World Federation of Exchanges office, over half of the world's securities exchanges were exposed to cyber security threats last year (TAH, 2021). Such occurrences have a huge financial cost since they damage brand equity, integrity, and reputation. The public's trust and confidence have been irreparably damaged.

Recent Chinese cyber intrusions into India have disrupted the operations of the major stock exchanges and electricity supply in the country's commercial capital. These security breaches not only affect the financial market but also have a detrimental impact on the reputation of the corporation. A well-executed cyber-attack has the potential to orchestrate the complete collapse of a country's economy and further stretch into a global economic meltdown. Therefore, enacting strong cybersecurity rules and evolving the market to bring new methods and technologies for cyber resilience against cybercrime has become critical. Given that most stock market shares are traded in dematerialized form, and most financial transactions are conducted via platforms providing digital financial services, the risk of money, financial information, and private and public data being exploited will rise. The stakes are relatively high in infrastructure like the capital market because investors are investing a significant amount of money, and the investors' and the organization's information is in danger. (Pandya, 2021).

OBJECTIVES OF THE STUDY

This paper explores cyber risk threats to the Indian financial market operations by analyzing the digital financial structures, the functioning of cyber security, and the different types of cyber incidents in the Indian financial market. The paper will also analyze how the European Union cyber-resilience tools have been combating the cyber security issues, how India's cyber security risk systems stack up against those of the EU and discuss the factors that each jurisdiction employs to offer stronger protection of data security issues.

RESEARCH METHODOLOGY

The paper, which reviewed a substantial amount of scholarly literature on digital financial services and cyber security, used an exploratory research technique based on

prior research from journals, publications, periodicals, and tabloids. The study's aims call for a descriptive research approach. The study extensively relied on secondary data. The present study has been undertaken to comprehend challenges in digital financial services.

WHAT IS A FINANCIAL CYBERCRIME?

Cybercrime is often described as "Any unlawful conduct where a computer, communication device, or computer network is used to commit or assist a crime". (Ministry Of Home Affairs, 2019)

It is the act of gaining financial benefit by illegal action motivated by profit, such as-

- Misrepresentation
- Malware or cryptoware attacks,
- Cyber insider trading,
- Cyber dissemination of false information,
- Hacking of payment systems,
- Cyber price manipulation, etc.

As a result, financial markets cybercrime can be defined as all financial market breaches that have a cyber component and are "either attempted or committed against or using an information system and communication network." (Neyret, 2019)

THE NEED FOR A COMPREHENSIVE CYBER SECURITY POLICY

Cyber fraudsters are actively aiming to target victims by exploiting trusted environments. A Symantec analysis found that India ranked sixth in the world for the number of computers infected with various viruses (Saraswat, 2019). It is subterranean servers that are used by cyber thieves to sell stolen information. Such information includes Social Security numbers, bank account details, debit card details, Aadhaar Card details, PINs, contact information, and user accounts. As a result of security scams and financial scandals, the stock market and Sensex have been manipulated. In terms of establishing effective corporate governance, even financial markets, which have regulatory authorities and powerful legal sections to back them up, have fallen short to some extent. (S Daniel Rathinaraj, 2010)

Cybercriminals have also been resourceful in devising profitable methods of defrauding money from their victims. Ransomware threats are frequently accompanied by demands for cryptocurrency ransom payments. Attackers are increasingly embezzling personal information, interrupting services, or exacting ransom payments by exploiting weaknesses in the supply chain and third-party suppliers. (Main, 2021)

For the first time in history, Estonian websites were attacked by Distributed Denial of Service (DDoS) assaults in 2007. It is believed that Russia was behind the attack that knocked out European government and political party websites as well as media and banking websites (Indian Council on Global Relations, Istituto Affari Internazionali, 2017).

In 2010, Indian computers were infected with the Stuxnet worm, and the virus attacked a wide range of computer systems, including power plants, and Supervisory Control and Data Acquisition (SCADA) systems. Except for the Stuxnet infections, India has not been subjected to a cyberattack on the scale of the one that targeted Estonian websites in 2007.

However, hostile nations (such as Pakistan and China) and rogue forces continue to target India (including cyber extortionists and organized crime syndicates). Data breaches and espionage attacks on the country's government servers and private entities have certainly occurred, taking confidential official and commercial data (Verizon, 2016). According to various media reports, the PRISM surveillance programme of the National Security Agency ranked India as the fifth most spied-on nation. (Saxena, 2013)

In October 2020, we saw the most recent instance of the extent of devastation that an attack on the electricity infrastructure may create. After a power outage in Mumbai, India's financial centre was left reeling for an hour. The chaos was purportedly sparked by a new Chinese hacker coalition known as 'Red Echo,' which caused a glitch at the country's most important stock exchange. (Feed, 2021)

The booming digital financial services are subject to high-security risk due to voluminous personal data, bank and credit card information, and transaction records. Hacking and spyware are the preeminent sources of information breaches in financial services. Insider threats and increased cloud use, on the other hand, are projected to amplify these dangers. According to BCG's report, in comparison to other firms, financial services are 300 times more likely to experience a cyberattack. (Ozarslan, 2022)

Consequently, in the wake of the cyber threats that could impair the financial sector's capacity to perform business, it's time to consider a new national policy to improve the country's cybersecurity.

REGULATION GOVERNING CYBER SECURITY IN THE FINANCIAL MARKET

As the frequency and complexity of cybercrimes increase, authorities are taking a prominent interest in issuing guidelines, enforcing rules, and expanding administrative reach throughout industries. The federal agency is considering technological advancements and growing dangers into account and incorporating them into directives and guidelines. The following are the major regulatory agencies:

The Reserve Bank of India (RBI's) regulations for cloud, multi-factor authentication (MFA) for secure card payments, and **the Securities and Exchange Board of India's (SEBI's)** cyber resilience framework directions. (Quick Heal, 2020)

The need for having a thorough data privacy strategy in place is highlighted by data privacy legislation as well as the reputational risks and implications associated with data breaches. (Capgemini, 2017) The success or failure of a financial services company may depend on how well it can balance using individual customer data while protecting customer privacy. The objective is to attack a subtle equilibrium amid data sharing flexibility and data privacy protection. Under the new legislation, India, one of the key outsourcing service suppliers to many mature markets, has developed a comprehensive set of data privacy regulations. This legislation, termed the Information Technology (IT) Rules 2011, covers all companies, including back-office and third-party outsourcing firms, to strengthen data privacy laws in the country.

SECURITY GUIDELINES ISSUED BY SEBI

The Securities Exchange Board of India (SEBI) has established different procedures in policymaking, effectiveness, training, threat detection, and cybersecurity that must be

followed by stockbrokers and depository participants under the guidelines. In addition, the Securities Exchange Board of India has made it essential for participants to execute a policy document to combat cyber threats. The policy should be drafted along the lines of identifying IT assets, protecting them with effective tools, identifying cyber-threats, responding to cyber-threats with effective measures, and recovering data/assets lost due to cyber-threats. Furthermore, specific cyber-security regulations have been established, such as the requirement that stockbrokers trading through APIs adhere to ISO 27001 standards. (Securities and Exchange Board of India, 2018)

STOCKBROKER/DEPOSITORY PARTICIPANT

According to the guidelines by SEBI, each stockbroker/depository Participant must nominate a Designated Officer who is responsible for the protection, detection, and upkeep of cyber-security standards. The Board/Partner of the Stockbroker/Depository Participant shall additionally establish an Internal Technology Committee, which will assess cybersecurity initiatives on a half-yearly basis and set goals for improved cyber-security and cyber-resilience.

Access to crucial data is one of the most significant aspects outlined in the SEBI guidelines. According to the guidelines, data access should be founded on the value of least privilege and should be limited to certain objects and periods. The instructions include examples of how to make access to the stockbrokers/depository Participants' systems more secure, such as using passwords, VPNs, and firewalls. Despite the element that these approaches can be useful in safeguarding a system, a perpetrator or even malware can attack the system even if the password or PIN is secure. As a result, new secure software or methods are required, as well as proposed illustrations for better system safety. (Pandya, 2021)

In the case of confidential data such as a customer's phone number or bank account details. By the requirements, every stockbroker/depository Participant must identify sensitive data and keep it in encrypted form. A stockbroker/depository participant should use industry-standard encryption such as RSA and back up sensitive data, while also ensuring that the backup location is appropriately secured, according to this guideline. Degaussing, crypto shredding, and physical destruction shall be used as appropriate to dispose of important data devices. A disposal strategy for the same system should also be developed for the system (Pandya, 2021).

OTHER RELEVANT LAWS

Cybercrime is also regulated by the Information Technology (IT) Act, 2000, in addition to the Securities Exchange Board of India. The Act's main goal is to endorse the commercial use of technology by allowing safe electronic transactions and penalizing criminals. Because the Information Technology Act of 2000 is continually evolving, it does not encompass all criminal behaviours. As a result, a cybercriminal who is proven guilty will be punished under the Information Technology Act of 2000 as well as under IPC 1860, depending upon the nature of the crime.

IMPACT OF CYBERSECURITY ON CAPITAL MARKET

In addition, the Securities Exchange Board of India intends to establish a three-tier cybersecurity system, which will include a cyber-security. Market infrastructures such as

the Bombay Stock Exchange and the National Stock Exchange will adopt the compliance system, which will be linked to the government and further international organizations. A Cyber-Security Index will also be designed to track cyber-security and cyber-resilience. It will also employ cutting-edge technology to improve data analytics. (SEBI Head Office, 2020)

Similarly, according to recent studies, social media serves as a stimulus for market manipulation. As a result, the Securities and Exchange Board of India has formulated a strategy to deal with this problem. Using techniques such as natural language processing (NLP), artificial intelligence (AI), and big data analytics, provides a method for social media surveillance. Surveillance on social media is being considered with tools like Blockchain. Although, technologically and otherwise, this would be a good move. Surveillant public social media can lead to a problem, especially with the forthcoming Data Privacy Law. Framework for cyber security and cyber flexibility for stockbrokers and depository applicants. (Tyagi, 2020)

To address the issue of cyber threats, SEBI organized a committee, mostly made up of IT specialists, to govern cyber security and cyber resilience in the capital market. As a result, in April 2019, the Securities Exchange Board of India (SEBI) released the Cyber Security and Cyber Resilience Framework for Stockbrokers and Depository Participants. The directions are designed to establish a compact cyber security and resilience policy. The policy covers stockbrokers and participants, mutual funds, and asset management firms. The rules are intended to protect investors' and participants' personal information and privacy.

THE EUROPEAN CYBER RESILIENCE SYSTEM

In recent years, Information and communication technology (ICT) and cybersecurity legislation for the financial industry have received a lot of attention in Europe. Compliance is one of the primary drivers of cyber resilience, and a sensible and steady administrative strategy can offer assistance to safeguard the essential foundation of security throughout the financial industry to avoid organizational and systemic risk. (Phillp S. Kruger, 2021) The existing regulatory landscape for ICT and cyber risk in the financial sector in Europe is multi-layered and complicated. The General Data Protection Regulation, which was passed in 2016, is one of the most vital and far-reaching pieces of non-sector-specific law for the financial system.

The GDPR, which applies to all businesses that control or manage personal data as well as those that operate in or sell goods to the EU, was put into place to streamline data protection laws throughout the European Union (EU). (Philip S. Kruger, 2021) GDPR has a significant influence on financial markets since they manage and process a big amount of data. Concrete standards for privacy, security, and breach management are one of the GDPR's most important tasks.

COMPARATIVE ANALYSIS

The historical backdrop of cyber protection in India and the EU has had a considerable impact on policy development in this field. Because cyber security has been an administrative need in the European nation for far prolonged than it has in India, EU members have considerably better-defined cyber security policies and frameworks. (Joshi, 2020)

In the early 1990s, India experienced technological growth. As a result, the growth of cyberspace regulation has been delayed. The Information Technology Act of 2000 was passed in response to the pressures of pervasive internet technology. However, it did not effectively address the issue of cyber danger. Following that, the Indian Computer Emergency Response Team (CERT-in) was established in 2004 and has since been instrumental in ensuring India's cyber security. (Joshi, 2020) The recent cyber security dispute over WhatsApp's encryption policy is an example of how cyber risk affects not only corporate finances but also the financial market, which holds thousands of individual investors' data.

Many European Union members have their cyber security policies, which are aligned with European policies. The Council of Europe's Budapest Convention on Cybercrime took the first step toward emerging a common strategy for cybercrime in 2001. It has high levels of personal privacy protection, which is acknowledged as a fundamental right in line with EU privacy regulations. The EU produced its first comprehensive policy paper on the subject, the 'Cybersecurity Strategy,' in 2013. The European External Action Service published the 'Global Strategy for the EU's External and Security Policy' document in June 2016, outlining the EU's measures to protect against cyber threats while pursuing an open and secure cyberspace (Nicola Casarini, 2017). The European Union has been working in the field of information and network security since 2004, when it founded the European Union Agency for Network and Information Security (ENISA) to collaborate with members and the private segment. To combat cybercrime, Europol established the European Cyber Crime Centre (EC3) in 2013, which serves as a point of contact for all data on cybercrime and threats (European CyberCrime Centre- EC3, 2022).

In contrast to India's inching into cyber diplomacy, the European Union sphere of impact has grown as a result of its enhanced cyber security capabilities.

THE SCOPE OF CYBER SECURITY

Cyber security has progressively emerged as an area of priority with the increasing digitization and increasing internet access. Both India and the EU consider cyber security to be of national importance.

The EU's cyber security plan outlines how to effectively avert and counter cyber disturbances and outbreaks. It lays forward a strategy for improving the cyber strength of the IT framework, curbing cybercrime, and boosting the EU universal cyber security strategy and cyber resistance. The proposal outlines a plan to address challenges in five zones: accomplishing cyber flexibility, plummeting cybercrime, creating cyber protection arrangements, and capabilities to bolster the EU's common security and guard approach (CSDP), creating mechanical and specialized assets for cyber security, and building up a cognizant worldwide internet approach for the EU (Cyber Wiser, 2021). The EU Commission introduced the Directive on Network Information System Security in 2013, to maintain solid cybersecurity across the European Union. On December 7, 2015, the European Parliament and Council negotiators reached an agreement, which was eventually transposed into national law. The preparedness of member states, cooperation among members, and a security culture for the economy and society are the primary pillars of these directives. The European Union Agency for Network and Information Security was founded in 2004 to assist the EU in achieving a considerable degree of framework

and information protection. With an abundance of funds, the EU can extend security throughout the continent. (Council of the EU and the European Council, 2021)

Key findings: India and the EU both have national policies that provide a comprehensive road map for addressing cyber security. Yet, there is substantial divergence in the implementation of cyber security actions. For instance, in India, cyber security activities have been hindered by a dearth of a stable and recurrent budgetary commitment.

National Cyber Security Policy (NCSP) 2013 in India provides a clearer picture of India's policy objectives in securing cyberspace, but it still falls short of providing concrete strategies for attaining its target. The policy highlights the social and economic importance of preserving personal data and preventing cybercrime, as well as the role of financial structure, which could impede the operation of the national economy. (Joshi, 2020)

The EU policy, which specifies distinct actors/circumstances that potentially constitute a concern, helps to more clearly identify threats to cyber security, while the emergence of a threat typology is not perceptible in India. (Joshi, 2020)

In contrast to India, EU policy prioritizes protecting government data. For example, the EU places a high priority on cyber hostile competencies while India focuses primarily on its defensive competencies.

Both the European Union and India have significant industrial and civil society stakeholders. However, the EU has a considerably more comprehensive cyber security environment than India, with the establishment of the civilization being a significant partner in active development. This advisory outline may well be the driving force behind the EU implementing a clear-cut approach to industry norms and reporting obligations. Furthermore, both jurisdictions have skill development programmes and organizations. However, the EU places a stronger focus on cyber security awareness. (Joshi, 2020)

India needs to establish a structure similar to that of the European Union so that state-level agencies can function and report to the national authorities as needed. The decentralized structure will make it easier to communicate and respond to cyber issues. Furthermore, if we admit the presence of state-level authorities, the plan can be implemented across the country. This will also promote improved information sharing, and the state-level officials will be motivated by a culture of competition to do better. (Rathi, 2019)

Lack of Active Cyber Defence: Unlike the EU's General Data Protection Regulation, India lacks "active cyber defence" (GDPR). For the government and the intelligence community, active cybersecurity defence goes significantly beyond merely improving active cybersecurity competencies. It includes central, state-run, and local council agencies, establishments, and critical organizations supported by capabilities and processes.

BEST PRACTICES TO FOLLOW

Cyber security is perhaps one of the most pressing issues confronting market players and regulators today, but it requires strategic attention and commitment to address. The following are some best practices that can protect the digital financial industry from cyber risk:

1. Establishing active governance for the cybersecurity system to help determine risk tolerance, resource allocation, and the participation of top management and the board participation in the cybersecurity monitoring.
2. Adopting global best practises will aid in the improvement and understanding of cyber resilience infrastructures, as well as their ability to keep up with the rapidly changing cyber threat landscape.
3. A robust public and private partnership will create a comprehensive management system that will improve competence and knowledge. Aujas cybersecurity, which is now part of the NSE family, provides a comprehensive cyber security approach. Its next-generation cyber defence centre is a security Centre of Excellence that allows people, processes, and technologies to be aligned. (TAH, 2021)
4. By spotting deviations from typical patterns, artificial intelligence and machine learning (ML) systems aid in the rapid detection of threats and their dissemination. They as well assist in maintaining compliance with the dynamic risk horizon by lining up the algorithms to recognize novel patterns. (Agarwal, 2020)
5. Security experts with updated programming and security skills are needed to appropriately administer the development of the security operations environment.

LIMITATIONS OF THE STUDY

The financial services industry continues to be heavily targeted by cyber-attacks as it holds a lot of sensitive data on individuals, organizations, and governments. Today's society is filled with intricate and clever strategies to defraud others of their money. Still, nothing appeals to felonious cognizance more than virtually transferring assets from one account to another. As the number of assaults increases, the authorities take notice and step toward the financial business to seek resolution. Customer trust in the financial sector is based on regulatory and compliance requirements, which are both major issues. Third-party providers are an important element of the financial industry. The financial industry is a consolidation of organizations that team up to generate an integrated set of services. Each of these organization's screening, auditing, and administration processes acquaints itself with cyber risk in the equation. Cashless and seamless banking services are becoming increasingly popular among customers. They want easy-to-use apps that are also safe and solid. They demand the convenience of instant digital fund transmission while simultaneously seeking security and safety. Financial services organizations may find it challenging to have up-to-date security technologies, which adds to the financial sector's necessity intended for competent security operators. (Bowcut, 2021)

CONCLUSION

Cyber risk is one of the concerns the financial sector is confronting today. Additionally, the danger landscape has been significantly broadened due to large-scale remote access by businesses. As a key growth driver of an economy, the security of the financial industries becomes imperative for securing from breaches and risk. Securing company-sensitive information, intellectual property, or business intelligence, as well as customer data, is essential. Trust is the bedrock of financial markets. It is the responsibility of the financial institution to protect the data and information of customers as well as follow the regulatory framework. The financial markets ecosystem needs a comprehensive set of cyber risk

management tools to ensure that the risk is efficiently managed across the system. Finally, the paper highlighted the issues surrounding cyber security practices and framework.

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6

Sentiment Analysis Using Subjectivity and Sentiment Score

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Abstract

Sentiment Analysis is not at all a new term nowadays. Numerous researchers are working in this field and trying to provide more and more accurate results. In sentiment analysis subjectivity refers to evaluating the expression, feelings, and speculations. During sentiment analysis, we need to identify whether a text is subjective or objective. After that, we can identify the polarity of the text. The paper is focusing on sentiment classification by making use of subjectivity and further polarity. Four classification models are further used to identify sentiments and their accuracy is evaluated further. Out of four classifiers used, Random Forest outperformed the others.

Keywords: *Sentiment Analysis, Subjectivity, Sentiment Score, Random Forest, Decision Tree*

INTRODUCTION

By combining biometrics, text analysis, computational linguistics, and natural language processing, sentiment analysis, commonly known as opinion mining, identifies, measures, and analyzes emotional states and subjective data. Most individuals freely share their thoughts and emotions while considering the social and business environment in the real world, contributing to the study of feelings. Sentiment analysis helps to understand customer satisfaction with the business. In online conversations and reviews, further studies conducted for sentiment analysis, emails, sentences, and paragraphs have been used to detect polarity. There are many forms of study of sentiment people might follow-

- 1) **Rule-based sentiment analysis:** This rule is created by humans to recognize subjectivity or polarity. It will take into account the set of rules combined with computational linguistic theories, and the number of negative and positive polarized words will define the negativity or positivity of the feeling.
- 2) **Automatic sentiment analysis:** Focused on Machine learning-based systems is the priority. It's reclassified as a different classification issue, with feature extraction, training, and prediction processes applied.
- 3) **Hybrid sentiment analysis:** Both rule-based and automated sentiment analyses are combined. And this approach is used in the majority of today's research.

There are several types of sentiment analysis, including aspect-based, emotion detection, multilingual, and grade analysis (positive, negative, and neutral). Subjective sentiment refers to the meaning or sound of a particular text in the context to artificial intelligence and natural language processing. Sentiment is subjective so we do not have an objective way of evaluating sentiment inherently. All current techniques are defined by human input. Analysis of sentiment facilitates the design of a method to gather and evaluate the emotional tone behind words. This is important because it helps users to gain an understanding of the individuals' attitudes, opinions and emotions in the data. Using the Text-blob method this paper demonstrates the subjectivity detection for the analysis of sentiment. Words are used as a bigram.

LITERATURE REVIEW

To automatically extract or categorize the emotion from reviews, an important part of sentiment analysis is natural language processing (NLP), text, and computations. In addition to consumer information, marketing, publications, applications, websites, and social media, a wide range of disciplines are involved and have published analyses of these attitudes and viewpoints. Here, some study findings are described-

They developed a model using a neural network called convolutional and an LSTM to compute collaborative performing arts projects and the polarity of words on the Google cloud. The interdependence of architectural traits was captured using deep learning algorithms that supported features learned by CNN and word embedding techniques. A bifacial LSTM layer is instantly filled with these alternatives. Examining the (MR) dataset [1]. Emotion depends on a theory of cognitive appraisal and sentiment analysis of online reviews. A special method for reviews is based on the conjugation of the SVM and latent semantic analysis. The feeling was divided into four groups, namely happiness, hope, disgust, and anxiety. [2]. To increase the accuracy of a negative review, a technique was applied. There are five levels of negative polarity in all. Their method is accurate on four different levels. The overall accuracy is 87.4 percent on average. This approach improved the functionality of the Bag-of-word model. [3]. Reversing the analysis using a corpus-based method and creating a dictionary of pseudo-antonyms. Dual prediction is used to classify test reviews into two categories. They devised a dictionary-based method using an unsupervised learning technique, which they utilized to solve the polarity change problem. A restaurant data set was used in their research [4]. Classification of various sentiment analysis techniques is focused in this research. The challenge shows that, in comparison to other methods, logistic regression provides an excellent accuracy score. Information about instruction was derived from the "Sentiment140" dataset. Their strategy succeeded

[5]. The execution of DL models such as CNN, DBN, and recurrent neural network models is the focus of this paper's latest investigations. These models aid in resolving several SA-related problems, such as the classification strategies used by rule-based classifiers (RBC) [6].

The authors of this paper suggested a new approach to Hierarchical Knowledge and Multi-Pooling. In their method knowledge, and information can be gathered from three different levels – character level, local level and global level as well. They utilized this information to solve the 'weak features' problem. They also utilized a multi-pooling approach that is used to extract and evaluate multiple features of the sentiments [7]. Authors used PSOGO sentiment analysis approach to improve the performance of sentiment analysis with IG for feature selection and SVM because of the learning engine. They tested and validated their model on two different datasets of different fields [8]

Multiple polarities are employed in this framework's polarity distribution. The accuracy of polarity consistency's verification was enhanced. To detect instability in an incredibly emotive language, they used two straightforward SAT solvers, and they decided to lessen the impact of polarity constancy to a manageable disadvantage. Their research included five dictionaries and WorldNet to identify potential inter and intra-dictionary discrepancies [9]. Subjectivity detection is the method of extracting subjective statements from results. Sentiment analysis is utilized to automate the analysis of such results. Finding opinionated data, classifying it according to its polarity feedback, and then doing sentiment analysis on it are the objectives of this research [10].

The researchers presented a language-independent model for the prediction of polarity, positive or negative opinion on any subject given in a natural language text. The assignment of weights is done for attributes, individual words, etc. In accordance with their position and their likelihood of being subjective. A two-step process is used to calculate the subjectivity of each attribute. The results of the assessment on a regular movie review dataset show 89.85 percent accuracy of classification [11]. The first opinion-level annotated corpus of sentiment and subjectivity analysis in internet videos, the Multimodal Opinion Level Sentiment Intensity dataset (MOSI), is introduced in this study. Annotations for sentiment strength, each frame, per-opinion visual characteristics, and within a millisecond audio features are included in dataset [12]. The literature for subjectivity detection is reviewed in this article, which includes both hand-crafted and automatic versions. Their understanding of subjective speech is enhanced by examining the assumptions made by these models, the results they produce, and the issues that remain to be explored. The benefits and disadvantages of each strategy are weighed. [13].

METHODOLOGY

We used subjectivity and polarity for the sentiment identification. Text Blob is an open-source library that is being used for various Natural Language Processing tasks. Words are used in the form of bigrams. The polarity score is a float value within the range -1.0 -1.0. The subjectivity is also a float within the range 0.0 - 1.0. Sentiment score is calculated using Review Text and Sentiment Column for test set and train set both. Finally, we applied a machine-learning algorithm to reviews and sentiment score columns and calculated accuracy for the various models.

DATASET

We utilized a dataset based on “Women’s Clothing E-Commerce Reviews” that was obtained from Kaggle.com. The data is contained in a comma-separated (.csv) file. 23486 rows and 10 feature variables make up this dataset. In the Review Text and Rating column, we have built our project. For the product rating given by the consumer, which ranged from 1 Worst to 5 Best, the Rating column had an ordinal integer variable.

TEXT PRE-PROCESSING

We took sample reviews from a dataset for preprocessing, which are given below.

1. “Absolutely wonderful - silky and sexy and comf...”
2. “ Love this dress! it’s sooo pretty. ihappene...”
3. “I had such high hopes for this dress and reall... “

These processes were followed by cleaning raw data, tokenizing it, and then normalizing it. As shown in Table 1 to 5, the results of pre-processing are already provided.

Cleaning Raw Data- In this phase, all unnecessary words and characters were omitted.

Lowering case- It decreases supplied text’s distinct token. Lowercasing was employed to reduce vocabulary size and eliminate sparsity.

Special characters removal- Here’s another text preprocessing method for better handling signs such as-(! @,#,\$) etc. This function is available in the regular expression library:

sub (actual pattern, replacing pattern, data)

Reviews	Clean_review
Absolutely wonderful - silky and sexy and comf..	absolutely wonderful silky and sexy and comfo...
Love this dress! it’s sooo pretty. ihappene...	love this dress its sooo pretty i happened t...

TABLE 1. Cleaned Raw Data

Removal of stopwords- These are terms that appear often in a language. Examples include “a,” “an,” “the,” “is,” “what,” and others. A list of the most frequent words from the NLP Toolkit was imported at the outset, along with a word count.

Review-Row	Stop word removal	Word Count
Absolutely wonderful - silky and sexy and comfort...	Absolutely, wonderful, Silky, sexy, comfortable	5
Love this dress! it’s sooo pretty. ihappene...	Love, dress, sooo, pretty, happened, find, st...	31
I had such high hopes for this dress and reall...	i, high, hopes, dress, really, wanted, work, ...	48

URLs Removal - The likelihood of there being urls in the tweet is reasonable. For future research, we might have to remove them.

The removal of HTML tags - In many situations, the removal of tags will be a valuable preprocessing method that is widely used. If you scrape data from numerous websites, this is quite helpful.

Calculated most common words by rating- Using 'Rating Column' and their words-counts we had calculated most common words from reviews. A table is shown the most common words-

Table3: Most common words for 'Rating Column

1	2	3	4	5
(dress, 372)	(dress, 739)	(dress, 1394)	(dress, 2291)	(dress, 5654)
(I, 353)	(I,706)	(I,1281)	(size,2164)	(love,5342)
(like, 348)	(like, 691)	(top, 1119)	(I, 2037)	(I, 5009)

Identifying Parts of Speech (POS)- The term "parts of speech" can also refer to lexical groupings or word classes. The usage of a word in a sentence is explained by its part of speech. Nouns, pronouns, adjectives, verbs, adverbs, prepositions, conjunctions, and interjections are the eight major components of speech. A tag set is a collection of tags used for a certain job. Pos words are displayed in a table given below.

TABLE 4: Parts of speech identification

Text_reviews	POS
Absolutely wonderful - silky and sexy and comfort...	(Absolutely, RB), (wonderful, JJ), (silky, JJ...
Love this dress! it's sooo pretty. ihappene...	(Love, NNP), (dress, NN), (sooo, NN), (pretty..
I had such high hopes for this dress and reall...	[(I, PRP), (high, VBP), (hopes, NNS), (dress, ..

Using POS tag over 'Rating column' we extracted adjective and noun for the given reviews. A table has showed the noun and adjective words with their numbers.

Adjective				
1	2	3	4	5
(top, 204)	(top, 422)	(top, 830)	(top, 1386)	(great, 3848)
(small, 162)	(small, 340)	(small, 664)	(great, 1240)	(top, 2957)
(fabric, 108)	(large, 213)	(large, 457)	(small, 1134)	(small, 2259)
Noun				
dress, 301)	(dress, 586)	(dress, 1104)	(size, 2164)	(size, 4847)
(size, 188)	(size, 482)	(size, 1009)	(dress, 1861)	(dress, 4532)
(fabric, 122)	(color, 249)	(color, 567)	(color, 978)	(color, 2463)

TABLE 5: Identification of Adjectives and Nouns

Calculated Bigrams-N-Grams are a collection of several words put together. It ($N > 1$) can be utilized as a feature in language modeling since they are typically more informative than words. The TextBlob ngrams function, which produces a tuple of n succeeding words, makes it simple to retrieve *n-grams*. In our model we had created bigrams i.e. combination of two words over rating column and also calculate frequency using *FreqDist()*. Result shown in the given table-

TABLE 6: Bigrams with their frequency

1	2	3	4	5
((going, back), 44)	((wanted, love), 96)	((wanted, love), 146)	((true, size), 243)	((true, size), 916)
(looks, like), 50)	((going, back), 98)	((I, love), 154)	((I, love), 319)	((I, love), 1143)
((looked, like), 44)	((looked, like), 89)	((I, ordered), 114)	((This, dress), 215)	((This, dress), 532)

Sentiment Calculation- Based on the “Review column”, we calculated sentiment. It refers to the assessment of a writer’s attitude or mood, whether they are positive, negative, neutral. The text blob function calculates polarity and subjectivity. A float value has between [-1.0 and 1.0], with 0 signifying neutral, +1 denoting an extremely positive feeling, and -1 indicating an extremely negative one. With 0.0 being the most objective and 1.0 being the most subjective, subjectivity is a float number between 0.0 and 1.0. Objective sentences are factual, while subjective sentences convey personal feelings, views, beliefs, opinions, allegations, wishes, assumptions, and speculations. Table 7 displays the sample result of subjectivity and polarity. This table tells which reviews show positive word shows higher polarity, and lower subjectivity and which reviews has negative sense shows lower polarity and higher subjectivity. Then we calculated sentiment score on rating column. Using this sentiment score we calculated the accuracy of the various models.

TABLE 7(Showed Subjectivity and polarity and sentiment)

Reviews	Subjectivity	Polarity	Sentiment Score
Review1	0.933333	0.633333	2
Review2	0.725000	0.339583	1
Review3	0.625000	0.550000	2

RESULTS AND DISCUSSION

The work showcased an identified subjectivity model using a pre-labeled dataset. Our work is based on the ‘Review, Rating column. The first step is data preprocessing. For the demonstration of how preprocessing steps and sentiment calculations work, three sample reviews are taken from the dataset. Tokenizing the review and cleaning it up are done during preprocessing, and stopwords are also removed. Parts of speech(Pos) tagging process is performed and also calculated adjective and noun and also calculated frequency

distribution of word over rating column, Table2-6 illustrates the intermediate results of three reviews. We calculated subjectivity and polarity of sentiment using Text-Blob which is shown in table 7. Finally, we calculated sentiment score over rating column.

We generated features using Bag of words using the CountVectorizer function. Create train and test sets for the data. A test set of 30% of the data had been used. As "Sentiment," columns from the target dataset are used. We created a model for the features to calculate accuracy using a variety of classifiers, including multinomialNB, random forest, bernoulli NB, and logistic regression. Based on these functions, objects were produced. To predict on the test set using the *predict function* and fit our model on the train set using the *fit function*.

On comparing the findings from Table 8, random forest outperformed the other three classifiers in terms of accuracy for Bag of Word features.

TABLE 8(Results)

Model	Accuracy Score	Precision Score	Recall Score	f1 Score
Multinomial NB	0.769927	0.583356	0.352107	0.326443
Random Forest	0.771694	0.632239	0.357303	0.335300
Bernoulli NB	0.763524	0.254508	0.333333	0.288636
Decision Tree	0.754471	0.514419	.490711	0.500629

CONCLUSION

In this paper, we detected sentiment analysis by subjectivity utilizing a text blob. It is a Python library that has an easy-to-use API for interacting with its functions and carrying out basic NLP operations. The text was subjected to general text analytics operations such as tokenization using NLTK, noun and adjective phrase extraction, stops word removal, POS tagging-grams, sentiment extraction, etc. Subjectivity and polarity are used. We have generated a sentiment score to identify sentiment. Bi-gram terms are employed. Sentence- or phrase-level analysis must be used to strengthen the sentiment. The highest performance comes from our model, which has a 77.1 percent accuracy rate. By using techniques to rectify the misspelled words and improve the grammar, the sentiment analysis's accuracy may be raised even higher.

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Will Gen X Embrace Technology in the New Normal?

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Abstract

Disruptive technologies have revolutionized the consumer behavior across the world. These technologies are not only helping companies in achieving sustainable competitive advantage by improvising on efficiency of internal processes, innovations, brand extension, and profitability, but also augmenting the consumer experience. To ensure the maximum reach among all segments, companies are putting lots of efforts towards understanding of the digital adoption and acceptance by consumers. Moreover Covid-19 had also played a significant role in expediting this adoption process.

This study intends to investigate the adoption of technology among Gen X consumers in the developing city "Lucknow". Though this paper, the researcher also tried to identify the factors influencing the use of technology by Gen X consumers. The study has been conducted by taking inputs from TAM model. For this mixed method has been used by the researcher. In the first phase of study interviews were conducted to conceptualize the factors influencing adoption of technology, and in the second phase a structured questionnaire has been used to identify the impact of these factors on the usage pattern.

Keywords: *Disruptive technologies, Gen X, Digital adoption, TAM*

INTRODUCTION

The word “disruptive technology” was first coined by Professor Clayton M. Christensen at Harvard Business School Press, to explain the concept of any new technology which has come up as a result of sudden innovation or an outcome of a challenge, which has a potential to outstand the traditional methods used so far. Such technology may or may not be cost competitive but has a significant performance advantage measured over the traditional criteria. Disruptive technologies characteristically comprise of a high rate of technical transformation, potential of larger impact, and larger commercial value to all stakeholders. It has been observed that they induce a complete new development cycle and brings a new radical change in determining the market’s move. Such changes are not only present in the manufacturing industry or limited to the product, but are also prevalent in the service industry and operational procedures. The commonest examples are artificial intelligence, IoT(Internet of things), and virtual and augmented reality. It has been observed in the past that such technologies drive transformation processes and the broader socio-economic systems. They may also give rise to newer customer segments or in certain situations may be accepted only by a niche segment initially.

As a consumer, human beings are exposed to many such technical interfaces which have brought about several changes in the way consumers communicate and purchase various products and services in the present day. Organizations are now realizing the importance of technology for consumers and are ready to provide multi touch points to consumers. This has led to much more ease, convenience and power in the hands of consumers. Few such technologies include:

- Chatbots- USA, India, Germany, the UK, and Brazil are the top 5 chatbot using countries. Consumers feel chatbots are a much faster mode way to connect humans and finding human service assistance. However studies reveal that millennials prefer to use chatbots in comparison to other age groups. These are widely used by online retailing, banking and pharmacy industries.
- Augmented reality- currently commonly adopted by retail, automobiles, and healthcare industry in India but has also started in eyewear, makeup, jewelry and other fashion products.
- Digital payments- Studies reveal that as on June 2020, there were more than 2,174 FinTechs in the India, out of which 1,500+ started in the last 4 years. Since launch in 2016, UPI has grown exponentially at a CAGR of 414%, and has marked an all-time high of 1,800 million transactions recorded in September 2020 in India. But still digital payments are mostly preferred by age group below 40 yrs.
- Use of mobile apps etc.

Thus emergence of such methodologies are changing the organization’s working procedures. Studies show that, the total number of Internet users in India has risen from 795.18 million from December 2020 to 825.30 million by the end of March 2021. Out of this, approx. 93 % use internet through smart phones. The number of smart phone users in India has increased from 304.51 million user in 2016 to 844.84 million by August 2021 which is further expected to go up to 1341.9 million users by the end of this decade.

Thus it becomes very important to understand how consumers in a developing city like Lucknow are responding to such technological changes. Moreover it is noteworthy to mention that it is important for marketers to understand the pace of technological adoption among Gen X population which has learnt using technology not by the virtue of their education but experience. And for this generation the changes that are happening are leaps ahead from where they started. So the marketer must try to create a balance in the ways the Gen X is offered the services in comparison to recent generations. Moreover it educating and assisting this segment is also the utmost duty of marketers.

LITERATURE REVIEW

Gen X, a generation born from 1961 to 1979 (Gurau, 2012), is one of the most highly educated generations among all the generations as per records and they are characterized of possessing techno friendly attitude, are media savvy, but still skepticism and pragmatism (Jackson et al., 2011 ;Littrell et al., 2005).

This generation has the highest employment rate of any other generation in terms of financial condition (Chrinian, 2016). This is also the biggest earners generation. Despite only 25% of the population, they are responsible for 31% of wealth generation (Chrinian, 2016). Gen Xers would experience the highest rate of increase in wealth, with their portion of overall net worth rising from under 14% to 31% by 2030.

In the field of information systems, the acceptance or adoption of information technology has received a considerable interest in the recent decade; therefore academics need to figure out why people utilize IT systems. Many models have been proposed to address this issue, and the technology acceptance model (TAM) has been one of the most renowned and commonly used techniques for elucidating on the rationality of users while accepting a particular information system. PU and PEOU are two constructs that compose an end user's belief in a technology and hence forecast his or her attitude toward it, which in turn reflects its acceptance.

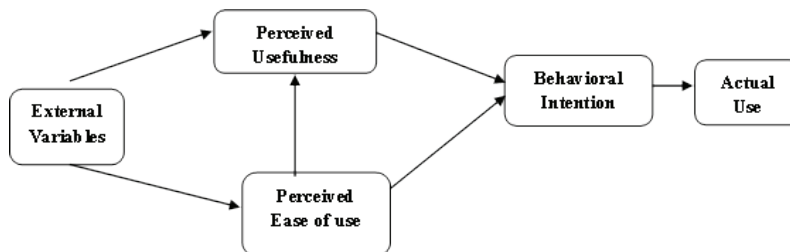


Figure.1. TAM Model (David, 1989)

Technology Adoption Model has been successfully applied to a variety of research disciplines and related applications, demonstrating its capacity and validity in understanding user behavior towards information system adoption throughout the last few decades. TAM explains the technology adoption through the interrelation of following constructs:

PERCEIVED EASE OF USE

Davis et. al. (1989) defined it as “the extent to which an individual would view the use of a specific technology to be free of effort on their side.” A number of studies have identified

a connection between perceived ease of use and perceived usefulness. Teo (2011) and Seif et al. (2012) discovered a uninterrupted link between perceived usefulness and perceived ease of use towards technology use.

H1: Perceived Ease of Use has significant impact on Perceived usefulness

There is no expense or effort associated with this system.” The degree to which a individual trusts that utilizing the system will be comfortable and without any hassles,” according to the definition of perceived ease of use given by WJ Doll, G Torkzadeh (1988) and TRA by Fishbein & Ajzen (1974). Other studies on the same model have revealed a link between usability and ease of use (Zhou L, Dai L, Zhang D; 2007), Shim, and Warrington (2001).

H2a: Perceived Ease of Use has significant impact on Behaviour Intention

PERCEIVED USEFULNESS

The perception of an individual that using a new system will increase their work performance is referred to as perceived usefulness. Although it is often a time-consuming process, online shopping is a very effective tool for finding items and services. Davis (1989) spoke on the relevance of perceived usefulness in his study. Users choose an electronic/mobile application mostly because of the functions that the app or technology performs for them, as well as the easiness or difficulty with which they can utilize the particular technology. If an individual believes that the benefits of using the internet are greater than the effort required to utilize it, he or she will prefer to do so.

H2b: Perceived Usefulness has significant impact on behavior intention of Technology

BEHAVIOUR INTENTION

Various studies have found that those who perceive technology to be simple, beneficial, and pleasing are more inclined to adopt it. TAM is used to comprehend the elements that influence adoption of technology. Perceived usefulness, perceived ease of use, and perceived enjoyment and pleasure are all factors that affect adoption of technology. If an individual's behavioural intention is greater, then there is more possibility of individual to act accordingly. Numerous studies have considered different instruments to assess users' willingness to engage in e-commerce (Choi Jayoung, Loren V Geistfeld, 2004; Vander Heijden H, 2004)

H3: There is significant impact of behavior intention on actual use/adoption of technology
Gilly and Zeithmal (1987) researched how elderly people adopted the then new technology as automatic teller machines, scanner-equipped grocery stores, electronic cash transfers, and custom telephone call services, about 20 years ago. The study's main finding was that any new technology must also cater to the demands. Study revealed that elderly individuals, who are traditionally considered to be resistant to change, do adopt new technology if they find it to be beneficial and simple to use.

Technological advancements are increasingly being seen as a driving force behind demographic shifts in educational environments (Dixon, Mercado & Knowles, 2013). The literature review helped the researcher identify few gaps as very few study were conducted on Gen X and their adoption behavior. Moreover a gap was also found in term of assessment of overall experience of consumers after using the particular technology. The studies in the past majorly focused on quantifying the adoption of a particular technology

rather than understanding the behavioral aspects related to it pre and post adoption and were focused mostly on mobile and e-commerce apps.

OBJECTIVES UNDERTAKEN

1. To identify the factors influencing use of disruptive technology by Gen X.
2. To understand the technology usage pattern of Gen X.
3. To diagnose the perception of Gen X regarding usefulness of disruptive technologies.
4. To know the impact of the influencing factors on the adoption of disruptive technologies.

RESEARCH METHODOLOGY

The present study has undertaken mixed method approach, in which in the first phase unstructured questions were prepared to interview the Gen X respondents selected on the basis of Judgmental sampling. The respondents were asked several questions related to factors influencing their technology usage, their sources of information and reasons and their pattern of use. All interviews lasted to approx. half an hour each, and were recorded and transcribed. The transcripts and sent back to the interviewees for validation of interpretation, after which themes were extracted for conceptual map analysis. After 31 interviews saturation was achieved, and then a conceptual map was prepared. In the second phase of study a structured questionnaire was prepared to collect information from the respondents selected on the basis of convenience sampling. 110 completely filled responses were selected with a response rate of 76% from the various offices, academic institutions and residential societies of Lucknow.

QUALITATIVE ANALYSIS

The Gen X respondents of Lucknow in the interview shared their behavior regarding use of technology in this post Covid era, however their responses varied largely and researcher was able to identify multiple factors supporting their behavior towards technology usage. This conceptual map reflects the various factors as expressed by Gen X respondents of Lucknow.

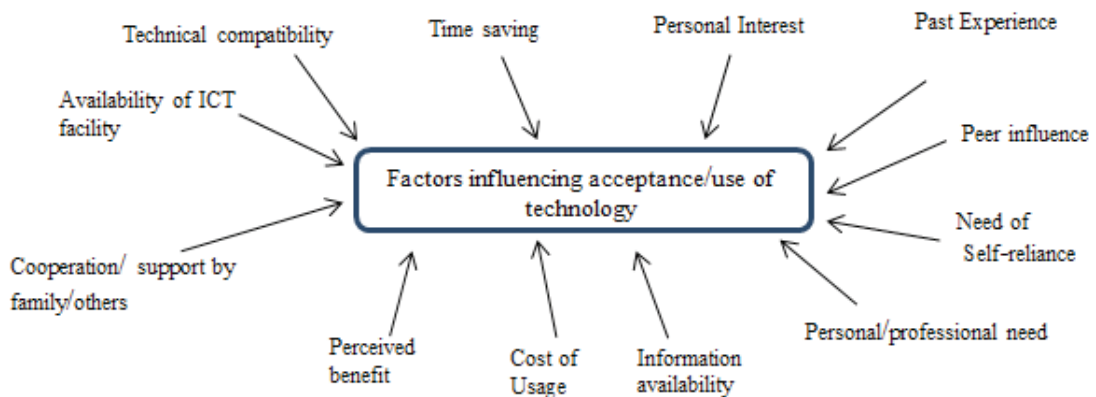


Fig.2. Factors influencing acceptance/use of technology

Table 1. Technology usage pattern of Gen X.

Technologies	Awareness about	Have you ever used them	If used what is the frequency of use	Do you think it is of any use	Do u want to learn about it	Do u intend to use in future
Virtual interaction using chatbots	63%	22%	Rarely	Not sure	Yes	Yes
virtual interaction video conferencing	100%	100%	regular	Yes	Already Aware	Yes
Video Surveillance	100%	8%	Rarely	Not sure	Yes	Yes
Interactive Voice Response (IVR)	90%	70%	occasionally	Yes	Already Aware	Yes
Use of mobile apps	100%	100%	regular	Yes	Already Aware	Yes
Use of Digital payment/ wallets/ smart cards	100%	72%	occasionally	Yes	Already Aware	Yes
GPS/ Navigation system	100%	68%	Rarely	Not sure	Yes	Yes
IoT	100%	43%	Rarely	Not sure	Yes	Yes
Voice Search/ Voice agents	72%	11%	Rarely	Not sure	Yes	Yes
3 D technology	93%	7%	Rarely	Not sure	Yes	Yes
QR codes	92%	12%	Rarely	Not sure	Yes	Yes
Streaming	100%	100%	regular	Not sure	Already Aware	Yes

The responses regarding usage pattern explained that most of the respondents were aware about the various technologies being currently used by the markets, however there was a considerable difference in the number of people who had or have been using such technologies in their daily life. Further to this, when questions were asked about the frequency of use, from the respondent who agreed to have used the technology, the number further decreased and majority of the respondents disagreed on the regular usage. Such respondents who had not used any particular technology before, where even unsure of the benefits that could be leveraged which was evident from the lack of information that they had regarding the technology. But at the same time most of the respondents showed interest not only towards learning such technology but also towards using them for improving their lifestyle and bringing ease in their work.

Furtherance to this, after close analysis of factors that were expressed by the respondents and study of literature related to technology adoption process, it was found that the factors could be grouped under the constructs of Perceived Ease of Use, Perceived Usefulness, Attitude, Intention and Actual use as described by TAM. And so on the basis of these

factors a structured questionnaire was prepared to collect responses to test the hypothesis related to TAM.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.982	.983	15

The scale was tested for reliability and the value was 0.983 for Cronbach's Alpha.

QUANTITATIVE ANALYSIS

For validation of TAM, regression analysis was conducted on the scale prepared and data collected from Gen X respondents.

H1: Perceived Ease of Use has significant impact on Perceived usefulness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.872 ^a	.761	.759	1.26591

a. Predictors: (Constant), PEOU

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	753.820	1	753.820	470.395	.000 ^b
	Residual	237.174	148	1.603		
	Total	990.993	149			

a. Dependent Variable: PU

b. Predictors: (Constant), PEOU

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.611	.241		2.536	.012
	PEOU	.369	.017	.872	21.689	.000

a. Dependent Variable: PU

Analysis shows that Perceived ease of use has significant impact on Perceived usefulness, with $b = .369$, $t = 21.689$, $p < 0.05$, and $R^2 = 0.761$.

H2a: Perceived Ease of Use has significant impact on Behavioral Intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 ^a	.694	.692	2.86892

a. Predictors: (Constant), PU

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2758.688	1	2758.688	335.170	.000 ^b
Residual	1218.145	148	8.231		
Total	3976.833	149			

a. Dependent Variable: BI

b. Predictors: (Constant), PU

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2758.688	1	2758.688	335.170	.000 ^b
Residual	1218.145	148	8.231		
Total	3976.833	149			

a. Dependent Variable: BI

b. Predictors: (Constant), PU

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.879	.539		1.631	.105
	PU	1.668	.091	.833	18.308	.000

a. Dependent Variable: BI

Analysis shows that Perceived ease of use has significant impact on Perceived usefulness, with $b = 1.668$, $t = 18.308$, $p < 0.05$, and $R^2 = 0.694$.

H2b: Perceived Usefulness has significant impact on behavior intention of Technology

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.927 ^a	.859	.858	1.94466

a. Predictors: (Constant), PEOU

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3417.142	1	3417.142	903.600	.000 ^b
Residual	559.691	148	3.782		
Total	3976.833	149			

a. Dependent Variable: BI

b. Predictors: (Constant), PEOU

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.274	.370		-.742	.460
	PEOU	.786	.026	.927	30.060	.000

a. Dependent Variable: BI

Analysis shows that Perceived usefulness has significant impact on Behavioral Intention towards technology, with $b = .786$, $t = 30.060$, $p < 0.05$, and $R^2 = 0.859$.

H3: There is significant impact of behavior intention on actual use/adoption of technology

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 ^a	.912	.911	.93522

a. Predictors: (Constant), BI

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1340.054	1	1340.054	1532.132	.000 ^b
Residual	129.446	148	.875		
Total	1469.500	149			

a. Dependent Variable: AU

b. Predictors: (Constant), BI

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.769	.164		-4.699	.000
	BI	.580	.015	.955	39.142	.000

a. Dependent Variable: AU

Analysis shows that behavioral intention has significant impact on actual use/adoption of technology, with $b = .580$, $t = 39.142$, $p < 0.05$, and $R^2 = 0.912$

Summary of the Hypotheses Test

Sr. No	Hypothesis	Status
H ₁	Perceived Ease of Use has significant impact on Perceived usefulness	Accepted
H _{2a}	Perceived Ease of Use has significant impact on Behavioral Intention	Accepted
H _{2b}	Perceived Usefulness has significant impact on behavior intention of Technology	Accepted
H ₃	There is significant impact of behavior intention on actual use/adoption of technology	Accepted

CONCLUSION & RECOMMENDATION

On the basis of above study it was found that in the city of Lucknow, the respondents from the sample size taken were quite aware about the currently used disruptive technologies but as per the skeptic characteristic of Gen X, some of them showed unsure behavior towards usage. However there was a keen interest in learning and using the technology in future. The respondents who were aware, and using the different technologies, perceive these technologies as easy to use and also found them to be beneficial. Hence they intended to use these technologies regularly and have also adopted them.

Thus the researcher after the study, would like to give suggestions to the marketers to educate, encourage and motivate the customers to use more and more technology in their lives. This would not only ease the life of consumers but will also increase the revenue of marketers in long run. Moreover adoption of technology is also beneficial for the government as it will enhance inclusion at all level and sectors ultimately improving the productivity and efficiency.

LIMITATION & FUTURE SCOPE OF STUDY:

This study is done by using the mixed method which has given the opportunity to understand the behavioral pattern of respondents as well knowing the impact of various influencing factors on adoption process. But in this study the researcher could conduct the study only on a small group of respondent belonging to Gen X of Lucknow city and hence generalization of outcome was not possible. Moreover the respondents taken were literate and from affluent families, which is again one of the reason that gives the scope for future study that such study can be extended further on larger sample size with people from different demographic backgrounds which will help identify the usage pattern in a more generalized manner.

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A Study on Impact of Covid 19 on Recruitment, Performance Appraisals and Compensation Policies

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Abstract

The COVID 19 pandemic has transformed the way business organizations function. The domain of Human Resource Management had to grapple up with challenges of remote working, Layoffs and Talent management issues in the wake of the crisis. The study is an attempt to explore the impact of COVID 19 on HR practices and policies. Descriptive research was conducted to decipher the perception of Middle level HR managers of Northern region in India. 50 Middle level HR Managers gave their responses related to impact of COVID 19 on recruitment, compensation and performance appraisals. The analysis of the responses revealed that COVID 19 has led to increase in online recruitment. Proficiency in I.T skills, agility, flexibility and ability to work under pressure are important considerations while shortlisting and selection of candidates. Most of the companies now create recruitment advertisements for posting online. The results indicated that the number of candidates applying for a job posting has increased significantly post COVID. Organizations post COVID now expect employees to perform over and above the threshold limit. The performance appraisals have become more frequent and more stringent post pandemic. The study also concluded that major part of compensation is now linked to performance and targets. The findings of the study are particularly instrumental for job seekers.

It is evident that ways of recruitment and skill requirements have undergone a change and therefore it is imperative that job seekers prepare themselves accordingly. Educational institutions must consider the expectations of industry post COVID and should revise curriculum and pedagogy to make students ready for the new normal

Keywords: Human Resource Management, COVID 19, Recruitment, Compensations, Performance Appraisals

LITERATURE REVIEW

The COVID-19 Pandemic brought an unprecedented crisis for the nations and businesses across the globe. The COVID-19 pandemic forced employers and employees into chaos and uncertainty.. HR managers started operating in crisis mode for much of 2020 and the first half of 2021. Organizations struggled to figure out work from home arrangements, meeting deadlines in situations where people were only available remotely. As the organizations are adjusting to the new normal, the HR practices, policies and procedures have changed drastically.

For the purpose of review of literature most recent studies (from the year 2020 onwards) have been reviewed and compiled. Extensive research has been done on how COVID-19 pandemic has changed the world of work. (Meister, 2020). Work from home became the norm overnight with the pandemic induced lockdowns. (Feitosa, J., & Salas, E., 2021). COVID-19 has accelerated e-Recruitment to a large extent. Traditional methods of recruitment are now being replaced with technology driven recruitment process (Vashisthaa, et al 2021).

According to the study conducted by Korn Ferry in 2020, 29% of employers worldwide had to implement salary cuts, 42% reported to implement a salary freeze, and 37% implemented reduction in bonus payments.

Automation, displacement of jobs, job losses due to robotics automation, Artificial Intelligence, Reskilling, Upskilling, Block chain, Cloud Computing, 5G, Disruption Flexible working and Remote work to rise in the upcoming years (Klowdown, & Lim, 2021).

The adoption of cloud computing, big data and e-commerce will be prioritized. Disruptive technologies, upskilling and reskilling will continue to be the thrust areas. Remote work may see significant expansion. Emerging jobs will include Data Analysts and Scientists, AI and Machine Learning Specialists, Big Data Specialists, Digital Marketing and Strategy Specialists, Process Automation Specialists, Business Development Professionals, Digital Transformation Specialists, Information Security Analysts, Software and Applications Developers, Internet of Things Specialists, Project Managers Business Services and Administration Managers, Database and Network Professionals, Robotics Engineers, Strategic Advisors, Management and Organization Analysts, FinTech Engineers, Mechanics and Machinery Repairers, Organizational Development Specialists, Risk Management Specialists (World Economic Forum, 2020).

COVID-19 also led to massive job cuts and reduction in recruitment (Campello et al 2020, Giupponi & Landais, 2020). Sustaining performance and profitability became even more important during the pandemic, hence the performance management became more

rigorous during COVID-19. Organizations started focussing on mapping and rewarding performers (Sembiring et al, 2020).

RESEARCH OBJECTIVES

This research paper is a study which provides a theoretical contribution to the existing body of knowledge in terms of changing role of HRM in the context of COVID-19.

To analyse the perception of HR managers regarding:

- Impact of COVID-19 on organization's expectations regarding skills and work experience.
- Impact of COVID-19 on the recruitment including Job Descriptions.
- Impact of COVID-19 on Performance Appraisals and compensation practices.

RESEARCH METHODOLOGY

The study is descriptive in nature as it describes the perception of a sample of Middle level HR Managers about the impact of COVID-19 on HR Practices. The approach is quantitative as it collects responses through a structured questionnaire on a five point Likert scale. The respondents had to specify their level of agreement to a statement in five points: where 1= Strongly disagree; 2= Disagree; 3= Neither agree nor disagree; 4= Agree; 5= Strongly agree.

Convenience sampling method was used for collecting sample. Employees working in the HR department of various companies in India were approached through google form for collecting the information. A total of 80 Middle level HR Managers were contacted, and only 50 final responses were received. The response rate was 62.5 percent. The collected responses were then coded and analysed through MS-Excel.

Descriptive statistics was used for analysing the responses.

RESULTS AND DISCUSSIONS

Demographic Profile

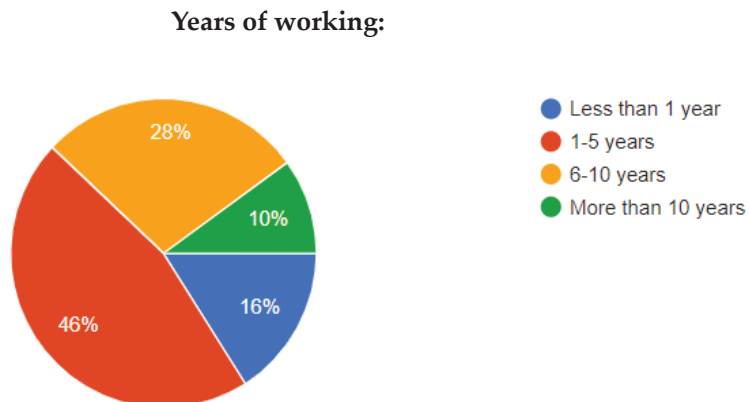


Fig 8: Survey Responses (years of working)

Out of 50 respondents, 46% (23) respondents hold 1-5 years of experience, 28% (14) respondents hold 6-10 years of experience, 16% (8) respondents hold less than a year of experience and 10% (5) respondents hold more than 6 years of experience.

Type of Organization:

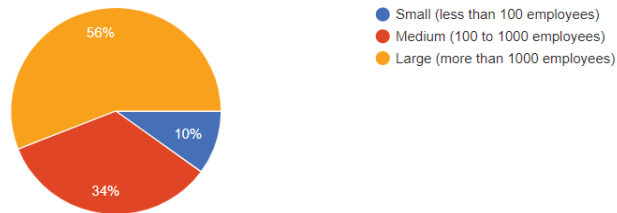


Fig 9: Survey Responses (type of organisation)

Out of 50 respondents, 56% (28) respondents work in large organisation, 34% (17) respondents work in medium organisation and 10% (5) respondents work in small organisation

Sector:

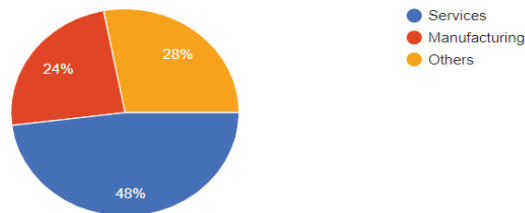


Fig 10: Survey Responses (Type of sector)

Out of 50 respondents, 48% (24) respondents work in service sector, 24% (12) respondents work in manufacturing sector and 28% (14) respondents work in other sectors (Information Technology, Health Care, Financials, Consumer Discretionary, Communication Services, Industrials, Consumer Staples, Energy, Utilities, Real Estate, etc.

1. Changes in Job Titles Post-COVID:

Table 1- Survey Responses

Post COVID there is frequent change in Job titles

Scale	Percentage
1	22
2	34
3	16
4	14
5	14

There is not much change in the job titles post COVID-19 as 34 percent of the respondents disagree and 22 strongly disagree with the statement.

2. Change in key responsibilities Post-COVID:

Table 2- Survey Responses

The key responsibilities have become more diverse

Scale	Percentage
1	12
2	12
3	24
4	28
5	24

The survey suggests that the key responsibilities have somewhat become more diverse post COVID-19 as 52 percent of the respondents agree and strongly agree with the statement.

3. I.T skills as an important prerequisite in most of the profiles

Table 3- Survey Responses

I.T skills have been an important prerequisite in most of the profiles

Scale	Percentage
1	4
2	6
3	16
4	28
5	46

The survey suggests that I.T skills have been an important prerequisite in most of the profiles post COVID-19 as 74 percent respondents agree and strongly agree with the statement.

4. Preference for experienced candidates Post-COVID

Table 4- Survey Responses

Organization prefers experienced candidates Post COVID

Scale	Percentage
1	8
2	22
3	34
4	16
5	20

The survey suggests that 34 percent respondents gave a neutral response and 22 percent disagree that Organization prefers experienced candidates post COVID-19. This implies

that there is no significant change in organisation's preference of experienced candidates post COVID-19

5. Organization's expectations above the threshold qualification

Table 5- Survey Responses

Organizations expects additional achievements over and above the threshold qualification Post COVID-19

Scale	Percentage
1	4
2	18
3	22
4	38
5	18

The survey suggests that majority of the respondents agree that **organization expects additional achievements over and above the threshold qualification post COVID-19**.

6. Performance linked remuneration :

Table 6 - Survey Responses

The benefits and remuneration have been largely linked to performance post COVID-19

Scale	Percentage
1	2
2	8
3	24
4	46
5	20

The survey suggests majority agree that **the benefits and remuneration have been largely linked to performance post COVID-19**. This implies that most of the companies are now giving the benefits and remuneration based on performance of an employee, post COVID-19

7. Remote work/flexible working/hybrid working:

Table 7 - Survey Responses

Remote work/flexible working/hybrid working is the norm post COVID-19

Scale	Percentage
1	4
2	10
3	8
4	38
5	40

The survey suggests that majority of the respondents agree that “**remote work/flexible working/hybrid working is the norm post COVID-19**”.

8. Most of the Job descriptions and specifications are created for online posting and viewing

Table 8 - Survey Responses: Most of the Job descriptions and specifications are created for online posting and viewing post COVID-19

Scale	Percentage
1	0
2	10
3	20
4	36
5	34

The survey suggests that majority agree that “**most of the Job descriptions and specifications are created for online posting and viewing** post COVID-19. This implies that most of the candidates are reached out through online methods post COVID-19.

9. Recruitment process is largely done through remote means

**Table 9 - Survey Responses
Recruitment process is largely done through remote means post COVID-19**

Scale	Percentage
1	0
2	18
3	10
4	40
5	32

The survey suggests that majority agree that “**Recruitment process is done largely through remote means** post COVID-19”. This implies that most of the candidates are reached out, hired and on boarded through online methods post COVID-19.

10. Clause of contractual/project jobs in most of the openings

**Table 10 - Survey Responses
There is clause of contractual/project jobs in most of the openings post COVID-19**

Scale	Percentage
1	4
2	36
3	16
4	30
5	14

The survey suggests that there is a neutral response towards “**There is clause of contractual/project jobs in most of the openings** post COVID-19”. This implies that there is no significant impact of COVID-19 on contractual/project jobs.

11. Decrease in number of JDs floated by the organization

Table 11- Survey Responses

There is decrease in number of JDs floated by the organization post COVID-19

Scale	Percentage
1	14
2	34
3	24
4	18
5	10

Analysis- The survey suggests that 48 percent disagree and strongly disagree that **there is decrease in number of JDs floated by the organization** post COVID-19”. This implies that there is no significant impact of COVID-19 on numbers of JD floated by organisations.

12. Increase in number of applications received for a Job Posting

Table 12- Survey Responses

There is an increase in the number of applications received for a Job Posting post COVID-19

Scale	Percentage
1	4
2	14
3	28
4	20
5	34

The survey suggests that 54 percent of respondents agree that “**there is an increase in the number of applications received for a Job posting** post COVID-19”. This implies that there has been increase in number of job applications post COVID-19

13. Reduction in benefits and remuneration post- COVID-19

Table 13- Survey Responses

The benefits and remuneration have been largely reduced post COVID-19

Scale	Percentage
1	6
2	24
3	28
4	20
5	22

The survey suggests that 42 percent of the respondents agree and strongly agree that “**The benefits and remuneration have been largely reduced post COVID-19**”. This implies that there is significant impact of COVID on remuneration.

14. Ability to work under pressure is an important prerequisite post COVID-19

Table 14- Survey Responses

Ability to work under pressure is an important prerequisite post COVID-19

Scale	Percentage
1	6
2	16
3	12
4	34
5	32

The survey suggests that 66 percent respondents agree and strongly agree that “**Ability to work under pressure is an important prerequisite post COVID-19**”. This implies that the organisations now expect their employees to handle pressure situations effectively and efficiently.

15. Agility and flexibility is an important prerequisite post COVID-19

Table 15- Survey Responses

Agility and flexibility is an important prerequisite post COVID-19

Scale	Percentage
1	0
2	14
3	18
4	38
5	30

The survey suggests that 68 percent of the respondents agree and strongly agree that “**Agility and flexibility is an important prerequisite post COVID-19**”. This implies that the organisations now expect their employees to be agile and flexible.

16. Organizations expect employees to upskill and reskill themselves

Table 16- Survey Responses

Organizations expect employees to upskill and reskill themselves

Scale	Percentage
1	2
2	10
3	14
4	44
5	30

The survey suggests that 74 percent respondents agree and strongly agree that **“Organizations expect employees to upskill and reskill themselves post COVID-19”**. This implies that the organisations now expect their employees to reskill and upskill based upon the requirements.

17. Performance appraisals have been more frequent and stringent

Table 17- Survey Responses
Performance appraisals have been more frequent and stringent

Scale	Percentage
1	8
2	14
3	36
4	20
5	22

The survey suggests that only 22 percent disagree and strongly disagree and 36 percent were neutral that **“Performance appraisals have been more frequent and stringent post COVID-19”**. This implies that COVID-19 had significant impact on performance appraisals.

18. There are more experienced professionals than freshers in my organization Post COVID-19

Table 18- Survey Responses
There are more experienced professionals than freshers in my organization Post COVID-19

Scale	Percentage
1	6
2	16
3	40
4	22
5	16

The survey suggests that there is somewhat a neutral response towards **“There are more experienced professionals than freshers in my organization post COVID-19”**. This implies that COVID-19 has no significant impact on number of experienced and fresher employees.

CONCLUSIONS

Impact of COVID-19 on Organization’s expectations regarding skills and work experience.

As per the analysis, HR managers perceived that:

- I.T skills became an important consideration while recruiting employees.
- Organizations have started expecting employees to continuously upskill and reskill themselves.

- Agility, resilience and ability to work under pressure are most sought after by organizations while selecting candidates.
- Organizations prefer candidates who are way above the threshold qualifications and expertise.
- The organizations do not prefer only experienced candidates post-COVID neither there is increase in the number of experienced people working in organizations Post-COVID.

IMPACT OF COVID 19 ON THE RECRUITMENT PRACTICES

As per the analysis, HR managers perceived that:

- There is no change in Job Titles Post-COVID.
- The key responsibilities mentioned in the Job descriptions have become more diverse and exhaustive.
- The process of recruitment has largely shifted to online mode.
- Most of the Job Descriptions and created for online posting and viewing.
- COVID 19 had no impact on the clause of contract in job postings.
- There is no change observed in number of Job descriptions floated Post-COVID.
- There are more number of applications received per job posting after COVID 19.
- Work from Home is increasingly offered by organizations Post COVID.

Impact of COVID 19 on Performance appraisals and Compensation practices.

As per the analysis, HR managers perceived that:

- 42 percent believed that appraisals have become more frequent and stringent post COVID. While 36 Percent gave a neutral reply regarding the same issue.
- Benefits and compensation have been reduced Post COVID.

MANAGERIAL IMPLICATIONS

It is evident that no industry or organization remained untouched by the effects of COVID 19 pandemic. The face of the industries and organizations have transformed completely. The results of the study have important implications for those seeking employment in the labour market. The organizations expect their prospective employees to be agile, flexible and well equipped to handle pressure and deadlines. It is also expected by the organizations that candidates hold diverse responsibilities and are ready to upskill and reskill themselves to avoid redundancy in the volatile and uncertain business environment. Job seekers must focus on augmenting their Information Technology skills and capabilities, since that has emerged as a prerequisite post COVID 19. It is also well established that performance linked pay and benefits will be on the rise. So job seekers must develop themselves for result oriented high performance driven cultures. Educational institutions must address the requirements of the industry and prepare the candidates accordingly. The curriculum and pedagogy must be devised after considering the changed expectations of the industry. The students must be well equipped to deal with the changes and challenges of the new normal.

LIMITATIONS

The findings of the study cannot be generalized since the sample size was not representative of the entire population frame. Convenience sample of only 50 Middle level HR managers may not have resulted in reliable and valid findings. Hence there is a need to conduct an exhaustive research with representative sample for ascertaining the actual impact of the pandemic on HR policies and practices.

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APPENDIX

(Questionnaire used for collection of primary data from survey)

Personal Details

Years of working

Less than 1 year

1-5 years

6-10 years

More than 10 years

Sector-

Services

Manufacturing

Others

Type of Organization

Large (more than 1000 employees)

Medium (100 to 1000 employees)

Small (less than 100 employees)

Specify your level of agreement to a statement in five points: (1) **Strongly disagree**; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) **Strongly agree**. Please note to choose only one.

STATEMENT	1	2	3	4	5
Post <u>Covid</u> there is frequent change in Job titles.					
The key responsibilities have become more diverse.					
I.T skills have been an important prerequisite in most of the profiles.					
Organization prefers experienced candidates Post <u>Covid</u> .					
Organizations expects additional achievements over and above the threshold qualification.					
The benefits and remuneration have been largely linked to performance.					
Remote work/flexible working/hybrid working is the norm post Covid.					
Most of the Job descriptions and specifications are created for online posting and viewing					
Recruitment process is largely done through remote means.					
There is clause of contractual/project jobs in most of the openings.					
There is decrease in number of JDs floated by the organization.					

There is increase in number of applications received for a Job Posting.					
The benefits and remuneration have been largely reduced post COVID					
Ability to work under pressure is an important prerequisite post covid					
Agility and flexibility is an important prerequisite post Covid.					
Organizations expect employees to upskill and reskill themselves.					
Performance appraisals have been more frequent and stringent.					
There are more experienced professionals than freshers in my organization Post Covid.					

Human Resource Interventions Needed to Promote Employees' Work-life Balance

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Abstract

Work-life balance is posing a serious challenge for the organizations with the onset of fast changing technology and demographic structure worldwide. Organizations have been tinkering with their existing HR policies to improve their workplace environment for a better work life balance. However, there is absence of academic attempts to draw a holistic picture of work life balance related issues, their fallout on workers, and organizations. This paper endeavors to understand the contemporary work-life balance practices in various organizations, and the difficulties faced in their effective implementation. This paper advocates that organizations should consider incorporating work-life balance practices as one of their strategic HR initiatives.

Keywords: *Work-life balance, Work-family friction, Organizations, Family beneficial Policies*

INTRODUCTION

The realization on the part of employees is that they don't wish to forsake their personal life due to their job commitments. Personal life and work are the two components in the worker's life. Difficulties in managing work and personal commitments are of concerns for both the employer and the workers. Organizations know that the quality of an employee's personal life has an impact of his work, and therefore, work life balance should be promoted through various Human Resource interventions.

“Work life balance is about good functioning of employees both at home and at work, with minimum of role conflict” (Clark, 2000).

Work life balance is important both for the workers as well as the employers. The demand for work-life balance interventions has compelled many organizations to look beyond routine HR initiatives. Organizations have been introducing many human resource interventions such as flexible working, sabbaticals, teleworking, personal leave, maternity and paternity leave, health and life insurance policy, crèche facility, gymnasium centre and psychological counseling facility.

Employers have instituted many work life balance initiatives to address the needs of the workers.

OBJECTIVE OF THIS RESEARCH PAPER

The objective of this paper is to enunciate the various HR interventions needed for promoting work life balance for the workers.

METHODOLOGY

The methodology used to write this research paper is Systematic Literature Review.

LITERATURE REVIEW

The concept of work life balance evolved with trade union movement. It came about as a result of a large number of women getting into the workforce. A lot of organizations have started offering work life balance initiatives to their employees. Some examples of work life balance initiatives include crèche facility, maternity leave, paternity leave, part-time working, job sharing, and telecommuting (Pocock, 2005).

The provision of work life balance facility help organizations in recruiting and retaining top class talent (Joshi, et al., 2002)

Employees who shoulder extra responsibility at the workplace suffer from work life conflict, which has negative consequences on their personal life (Subramaniam, 2013).

Work life conflict leads to burnout, stress, low level of organizational commitment, poor on the job performance and stronger intention to quit the organization (Grzywacz and et al., 2007).

Work life balance leads to workers having job satisfaction (Karatepe, et al. 2007)

HR driven work-life balance practices can be categorized into:

1. **Policies** –They include family leave, flexi-time, part-time working, sabbaticals, maternity and paternity leave.
2. **Benefits** – They include compensation structure that protect employees against loss of earnings, health insurance and paid vacations.
3. **Services** – They include childcare facilities at the workplace, psychological counseling and gymnasium centers.

The ever increasing population of women employees in the workplace has thrown many challenges before the employers. The HR propelled work-life balance initiatives has mitigated the onslaught of these challenges, and helped the organizations in containing

absenteeism rate, attrition rate and increased the level of employee commitment (Lambert, 2000).

Organizations benefit by making available work-life balance programmes to their workers. Research suggests that work life balance initiatives lead to productivity gains, reduction in absenteeism rate, and reduction in attrition rate (Allen, 2001).

HR managers should encourage workers to utilize the various work life balance initiatives available in the organization (Thompson, et al., 1999). However, the fear of punitive ramifications on career discourages workers from utilizing the various work life balance initiatives. Perception of the peers and superiors that only less committed employees avail of work life balance initiatives discourages employees to come forward and avail these opportunities. It is misconstrued by them that it would adversely affect their rewards, career opportunities and salary increases (Allen, 2001). Sometimes, the work life balance initiatives may look comprehensive and robust, but employees do not see any value in them (Glass & Finley, 2002).

RECOMMENDATIONS FOR PROMOTING WORK LIFE BALANCE AMONG EMPLOYEES

1. **Working hours** - The working hours including leave and overtime are regulated by the concerned authority. The working hours for an employee cannot exceed the ceiling fixed for the day / week / month. The employee has to be provided with a weekly holiday. In case of exigencies of work, an employee, if called on weekly holiday, is allowed a compensatory holiday or monetary compensation in lieu of that.
2. **Childcare centers** – Organizations also provide the facility of onsite childcare centers to take care of small children of working mothers.
3. **Leave Provisions**–Organizations provide various kinds of leave which include earned leave, casual leave, sick leave, compensatory leave, maternity and paternity leave.
4. **Other provisions** – Organizations provide additional benefits to their employees like housing facility, health and life insurance policies for their employees.
5. **Flexible working** – It enables workers to choose the starting and ending time of their work shift. It helps the worker attend to their personal commitments.
6. **Compressed work hours** – An employee works for forty hours over a period of four days instead of five; thereby, getting one extra free day for himself to attend to his personal chores.
7. **Job-sharing** – Two workers share one full-time job position. However, they divide the working hours equally, so that each worker has a part-time position. Salaries, holidays and fringe benefits are also equally divided between the employees. This helps an employee to attend to personal chores, thereby enabling an employee to maintain a healthy work life balance.
8. **Sabbaticals** - By taking career breaks, a healthy equilibrium between work and personal life is maintained.
9. **Telecommuting** – Workers can do their work from the comfort of their homes by using various ICT facilities.

10. Yoga classes- Organizations are offering yoga classes to their employees on a regular basis to maintain their physical and mental health.

HR managers should ensure that the above recommendations should form a strategic part of the organization's HR policy. The policy features should be reviewed on a rolling basis to make it friendly for the employees without compromising with the objectives of the organization. HR should train and retrain their line managers to sensitize them on the optimum utilization of work life balance practices by the employees working under them.

THE ROAD AHEAD

Organizations need to focus on providing work life balance to their workers and consequently, move forward with family friendly policies for them. Organizations need to explore newer ways to satiate the work life balance requirements of diverse section of employees.

Employees need to be consulted at various stages during the process of formulation of the work life balance interventions. The work life balance interventions should be effectively communicated to the employees so as to create awareness about these policies. Managers should encourage employees to use various work life balance interventions. The utilization of various work life balance interventions should be monitored, and course correction, wherever necessary should be done on a regular basis.

Work life balance interventions should form a core part of an organization's HR policy.

CONCLUSION

Work-life balance practices are in vogue for quite some time. Organizations have been offering some welfare programmes like fixed working hours; leave provisions, maternity benefits, etc. to their employees.

The fast changing demography, technology, and economic changes have cast a responsibility on organizations to look beyond welfare provisions with more humane concerns so that their employees can maintain an equilibrium between their work and personal life, thereby increasing the productivity level for the organization. Research suggests that work life balance creates a satisfied, healthier, productive and motivated workforce; however, few organizations have structured work life balance programmes as part of their core HR policy.

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Is Digital Disruption Damaging the Incumbents?: A Conceptual Study on how the top 500 have Braved the Post-Corona Digital Storm.

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Abstract

The concept of creative destruction based on the narrative that has been based upon the fast change that has been taking place in the industry whereby the entry of large companies which are based on technical expertise and a sudden spurt in the number of unicorns has led the market to believe that the future of the large organizations that have been around the market for a very long time is bleak. We have worked upon data of the world's biggest companies ever since their inception and how they have braved the digital storm and, in this article, we sought to explore how these organizations have proved that the destructive effect of digital disruption is way less than it was thought to be on these organizations.

Keywords: Digital Disruption, Post-Corona Strategies, Incumbents

INTRODUCTION

The advent of the Internet revolution was in the mid of the 1990s where a very minimal population of the entire globe had access to the Internet as well as lesser amount of people used to understand the effects that the Internet is going to have on their lives. If you look at the number of organizations that belong to the Fortune 500 today that were present when the Internet revolution took place it comes to over 480 organizations. This basically means that most of the organizations that belong to the category of the Fortune 500 were present even before the advent of the Internet in the world in some form or the other.

It is not intended to make the statement that digital disruption is a myth but though it is as real as it could be there have been myths around it that have created a hype of this process in the market which according to the investigations doesn't hold true. The myths that have been mentioned are, disruption processes happening so fast that all the established firms are struggling to keep up with the pace and adapt according to the changing scenarios and most of all each sector of the industry is being threatened by this process. Research done on these myths has proven that these myths have not been based on any facts that have been calculated through certain scientific procedures but are a result of a simple narrative that has been promoted by the newly introduced unicorns.

The objective of writing this article is to educate the market about the various myths and the facts that have been doing the rounds ever since the narrative of digital disruption has been promoted. People involved and affected by the market need to understand and realize reality to be better prepared for what is to come. There are many researchers who are claiming that digital disruption is going to change the way things happen on a complete scale and all the industries are going to be affected by this. If we look at the facts, there are numerous researchers that have been making similar kinds of faulty predictions ever since the advent of the Internet and even before that. The market must understand how these giants in the market have survived by foreseeing the probable future and acting accordingly. Evolution is the key to survival. Everyone understands that including the incumbents and how do we evolve? Evolution is a process of understanding the changes in the external environment of the market and that affects the respective business practices of the industry coupled with an intention and a foresight to adapt to the changes and ride the wave. When the executives who are in charges of running their respective businesses are going to be equipped with just capabilities, they would be able to take smarter decisions and not just go along the rhetoric of creating diversified businesses in tandem with the changes happening in the market. There are various strategies that have proven themselves overtime that can be applied in such situations and the company can easily adapt to the changing market situations by having a systematic approach with a will to make smart choices and not only to survive but to also thrive.

ACTUAL SCENARIO

When we look at the names of the organizations that were a part of the global 500 and the Fortune 500 during the time of the advent of the Internet, we are going to realize that in the current scenario almost 200 organizations that are still on the list were those that were on the previous list. The over 200 organizations that had not made it so far had their own logical, verifiable and rational reasons like merging with other organizations being sold

to other organizations or not being big enough to qualify for the list. Only 35 out of the 500 became bankrupt, well it could clearly be seen that there were over 200 organizations that were present in the list of 1995 and have done good enough business to get into the list again. More than 50 organizations were a part of the existing organizations and hence were restructured and merged as a part of an existing business entity, while it has been referred to before also that only 17 organizations were founded and included in the global 500 after 1995. Meta, alphabet, Tesla, Netflix, Uber and such organizations were part of those 17 organizations that made it to the list in 2020.

There were more than 160 firms from the global 500 list that were incorporated in the late 90s that are still a part of the same list. Looking at the numbers we can see that only 10 organizations had died out while more than 130 organizations had either been purchased by the existing organizations or had merged with their mother corporations because they were a part of the same conglomerate. There were only 12 organizations that were new in the list in 2020 whereas researchers suggest that over 150 organizations had dropped off from the list but over 300 organizations had been a part of that list before the 90s itself. This article has been written with a focus to make the reader understand how much hype has been created around the concept of digital destruction whereas the effect of this phenomenon on incumbents is way less than has been projected.

A point to be noted is that neither of these two lists incorporate private and venture backed actions because of either partnerships or are there for a period of 25 years. These observations do not affect the outcome of this research because the two lists that have been referred to for this research give a very comprehensive detailed analysis of how the consumption patterns of industries and consumers have changed over time. The lists that have been referred to inculcate the rankings of the organization based upon the amount of sales revenue that is generated by the organization and not according to the value that the organizations have in the market or how profitable they are in the long run. When we investigate the profitability of any large organization, we realize that though there was a certain period when digital disruption had literally taken them by the neck, and they were incurring huge losses at that point of time but when they understood the behavior of the market and bounced back, they have become much more profitable than they used to be.

For better understanding we have divided the firms into various categories depending upon their inclusion into the lists as well as their performance along the way. The various categories that have been divided are as follows:

1. The Indomitable: the organizations that have been in the lists throughout.
2. The Fallen: the organizations that were on the list in the mid 90s but merged with other companies, got bought by other organizations, stopped growing completely.
3. The Survivors: the organizations that were on the list in the late 90s in some form or the other but were very insignificant but over the years have risen in the ranks.
4. The Goners: the organizations that were on the list in the late 90s but went bankrupt over the years.
5. The Newbies: The organizations that were not on the list in the late 90s but made it to the list eventually and mostly were based on technical grounds.

A very interesting observation over the years was the growth pattern of the newbies which showed extraordinarily high growth over the years from the year of their conception, but they were performing in a completely different zone and were not affecting the performance of the indomitable in any way and the others were also growing, even the fallen were showing some sign of growth at some point in time. If we look at the data that shows which organizations were profitable, we will realize that the newbies were extremely profitable as they graduated from a position of having no profits at all to a position of having supernormal profits in no time, whereas the indomitable also grooved in their profits but not at a pace that could match the newbies. It is interesting to note that even with the fallen were making profits and only the goners were incurring losses consistently.

The research also suggested that sectors such as technology, media and telecom were the sectors that were witnessing a huge change over the years along with the sectors of restaurants and hotels. There were over 50 technology media and telecom industries on the list of the late 90s five out of which went bankrupt and then those that didn't exist in the list of the late 90s. In the retail sector out of the more than 60 firms in the late 90s list there were more than 15 that were bankrupt and out of the more than 70 firms that were on the new list there were three that were not present on the late 90s list. The other industries like chemicals automotive's consumer products healthcare pharmaceuticals travel and transportation materials energy aerospace etc. had very high stability across these years.

Now let's look back at the myths that were the basis of this research where we had studied that no industry could be saved from the digital disruption process, the digital disruption process happens so quickly that most of the giants won't be able to adapt to the changes and perish. The facts stated above have proven that these myths were not having any say in the reality of the industries except for some industries like technology telecom media and retail that were in fact affected but at such a moderate level that it didn't seem to have any effect on them at all. There are arguments that say that the disruption affects the industry's overall very long period. The banking industry the insurance industry the education industry the audit and consulting industries were thought to be the most vulnerable industries in the late 90s and even when these industries were growing, and the changes were being adapted by the population at a very fast pace the people who used to stick to the dogma never surrendered their misconceptions. It can be evident that many organizations have been struggling in the past few decades, but those struggles are not connotations of any broad trends that have any substantial effect on the giants, and it can be very easily determined from the fact that all the incumbents have crossed over to the age of digital technology with ease.

EVOLUTION THROUGH ADAPTATION:

A very renowned consulting and research firm has noted in its observations that the organizations that fight fire with fire and open competing digital units or build incubators or accelerators or pursue to transform their current operational tactics through bold and offensive strategies when faced with the digitization of their industry have better odds of coming out of this war as the winners.

This kind of strategy is one good way to counter the problems and the challenges that are being faced by the organizations by implementing the porters five forces model to

understand the competitive intensity of all the various factors that affect the industry and act accordingly. But the problem that arises in such an approach is that when incumbents also start stepping on the same path as the newbies, they break down the barriers that have been created by themselves through the years and encourage the newbies to counter their efforts with renewed vigor while also increasing the bargaining leverage of the customers with special reference to the markets where direct customer dealing is involved. We are now going to look at these strategies that have been adopted by the incumbents who were a part of the Fortune 500 as well as the global 500 firms and that helped them fight and survive through the digital revolution over these 25 years.

1. **Fight:** When a human is confronted with a challenge the best reaction that a human can elicit is to fight that challenge; this reaction is ingrained naturally into the psyche of each human being and here a human being or an organization tries to take on its competitor and its own game. The giant can easily fight with the newbies by setting up new units, acquiring the newbies, making up joint ventures etc. The wise approach to such a problem is to fight only when the very existence of the industry is in question, but this is a situation that presents itself in very rare scenarios. Most of the incumbents have faced a very tough challenge from the new base because the newbies are coming into this business with a rigor that is unparalleled and cannot be matched by the incumbents and so these giants leave a very poor track record when it comes to beating the newbies at their own game. The most pertinent example of such an occurrence is how Google took upon Microsoft.
2. **Dig Deep:** This is the strategy where an existing giant keeps playing the game that is best suited to its strengths. The incumbents have established themselves into a particular sector through years of brand building and dexterous marketing strategies. This is the time when they can reap the benefits of their hard work through working on their strengths and trying to inculcate the new trends that are affecting the psyche of the customers into their current business strategies. The organizations have already gained the trust of a large section of the market, they have developed long-term loyal relationships with many customers and their reach is much vaster than any newbie can expect to have at its nascent stages. These factors create such tough entry as well as mobility barriers for the newbies that it becomes very tough for them to break those barriers.
3. **Retreat:** When the incumbents realize that they cannot continue to compete with the newbies as the newbies are way stronger than them in certain areas where the incumbents are seemingly weaker than the newbies they yield to the newbies and adapt to strategies so that their survival can be ensured. The easiest way to ensure survival in such a situation is to go for consolidation through the channels of acquisition or mergers and this can be seen through the examples of the camera giant Konica and Minolta which merged with each other when the industry suddenly got disrupted by the digital revolution. The incumbents can also call for government support based upon their presence in the market for such a long time that the interests of most of the population may be vested in the incumbents and any harm to the incumbents could result in the harm to the vested interests of the vast majority which is a very apt area of concern for the government. The government can put restrictions on the newbies or give a bailout package to the incumbents but in any way the incumbents will get a second chance to grow back again.

4. **Migrate:** when the situation arises for the incumbent to step down from the pedestal that they have occupied for a very long time and the government also cannot do anything about their position now, it is best for the incumbents to move to a better or different markets where the opportunities for their current business industries are still relevant and pursued. The incumbents must set their standards of thinking practically as to what the situation warrants from them and use their existing strengths and competencies in new markets.

The choice of strategy that an organization decides to pursue completely depends upon the circumstances that the organization is in and the resources that the organization possesses. A recent study has shown that an organization with strong assets which are still valued by the market should go in to dig deep because their competencies are still relevant in the current market. When the organizations are in a position that they cannot counter the newbies then migrating to newer markets which has still have a huge demand for their products is the advisable strategy. There are even organizations that are pursuing all the four strategies at a same time for different brands, different products, and different product lines so that they can still be in a fighting position with the newbies and keep up their position and market share in the market.

The best way for an incumbent to stay relevant in a dynamic market is to always keep their eyes open and keep a check on all the newbies that come along and whenever they come, they need to understand their business models to get a grip of the context of their business do an analysis of their target customers and have a bouquet of options to consider from.

Which way to go:

This analysis presents simple and straightforward lessons for the corporate executives to take away.

The first lesson for them is not to generalize their expectations by getting impressed through examples that are way beyond their league. Learn from the giants that have not made it this far.

Always keep in mind that the giants that have not made it this far are outliers to the cause and are not a generalized trend that has taken over the industry. The amount of disruption that has happened in retail travel media and technology is enormous. Most of the other sectors have managed to keep the disruptions at Bay through the construction of stringent barriers that included high switching costs, economies of scale trusted relationships and strict regulations. The best way to ride the wave of disruption is by understanding the logic of disruptive innovation but staying true to the basics of the structure on which the industry is based and the factors that provide competitive advantage.

The second lesson that must be taken away from this research is always stay away from getting paranoid over a certain disruptive process that has affected your industry. The best way to do this is to step back from the whole issue and get an overall observation of where things went wrong, how things went wrong, what should be done to get things right and then a fully researched plan should be put into action to counter the effects of the disruptive process. Most of the top brass of the incumbents keep their management on their toes in anticipation of unprecedented threats from unknown quarters. This approach not only creates an atmosphere of paranoia but also forces the people to beat about the bush and not look at the root of the problem. The whole management gets fixated on

a problem that is not their area of concern and stop looking for the solution but start worrying about the problem only. The risk that comes with this kind of an approach is that when the solution is on the horizon, people run towards it so fast that they lose sight of their larger interest and goals and stumble upon their way not only creating a mess of the current processes but also jeopardizing the long run. Always keep two possibilities open in the mind, whenever taking a decision, the first being that the organization will be affected by disruption and the second being that the organization will not be affected by disruption and this thought process will help the managers and the top brass to take better decisions.

The final lesson is that it is imperative to make the right choice. The management should understand that even if their businesses are getting disrupted by modern technologies it will take years to dislodge them from their position in the market and create a real problem for them. It has been seen as a general trend that most of the technological disruptors that emerge very quickly get into two business partnerships with established organizations and start coexisting.

Off rushing towards the horizon the incumbents should keep their focus on their long term objectives, always keep a tab on the current trends in the industry, prepare for plausible and possible scenarios where disruption or problems can happen, take a proactive approach to the latest trends in the market and finally have a flexible strategy that is open to adaptation according to the changes in the market scenario and is best for the needs of the organization based on the capabilities of the organization.

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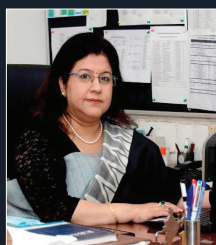
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