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PERSPECTIVES ON BUSINESS MANAGEMENT & ECONOMICS
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PERSPECTIVES ON
BUSINESS MANAGEMENT & ECONOMICS

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PREFACE

Volume IV of our Perspectives on Business Management & Economics (PBME) carried some exciting updates from the Business Management and Economic landscape. PBME looks at various exciting insights since its inception and continues to look forward to more zeal and enthusiasm from our eminent researchers who update us about various developments from different businesses and economies and provide food for readers' thoughts from different streams of businesses and economy.

As the world moves away from the pandemic and gets adjusted to the "new normal," the challenges and opportunities are being discussed and focused on by our experts worldwide. Almost all sectors of the economy have started their transition in response to what is hinted. As we are taking stock of the situation, several countries are entering into the second and third waves, which bring in more challenging business situations going forward.

We are sure that the readers of this volume will get some exciting insight, as every paper contributed to this volume has its significance. Thus, we believe that this volume can help the researchers in conceptual development and identify research gaps that can become inputs for further research.

The contributions of our respected authors have made our dream come true. A book is not just a collection of papers holding relevant information but is more than that. It provides information related to a stream and kindles the researcher's thoughts within the reader. It opens the scope of research by showing the link between concepts and fields.

The PBME team has put in constant efforts in setting higher research standards to the contribution, only with the ambition of creating a research-sensitive society. We here believe in learning and growing together. Our effort is consistent, and we are persistent in doing what we believe. Let us strive together for a better tomorrow.

Editorial Team

Perspectives on Business Management & Economics

Volume IV • April 2021

ABOUT THE EDITORS

Mr. Vijaya Kittu Manda has 11+ years of experience in the capital markets, financial planning, and investing. He is an Advocate, an I.T. Entrepreneur, and a Capital Market Trainer. His investing journey started from college days. As a firm believer that knowledge can make a difference, he is forever a student and has ten University Postgraduate Degrees in different subjects. He is NISM Certified in multiple topics. His passion for investing made him study MBA and M.A. (Economics), and he is currently pursuing a Ph.D. in Management with a specialization in Mutual Funds. He always encourages everyone to learn any subject that drives them towards their life goals. He also guides Undergraduate and Postgraduate students of Management and Engineering disciplines in their project work. As a securities market researcher, he is the author of several research papers that were published in reputed International Journals and Case outlets. He is a Web of Science Publons *Certified Peer Reviewer*, *Certified Publons Academy Supervisor*, and reviews papers for several international journals, including those from *Sage Journals* and *Science Domain International*.

Vijaya Kittu is an avid writer and is the author of an academic book – *Foreign Exchange Markets* and *The Basics of Trade & Commerce: An Introductory Guide to Business Essentials*. He was a columnist for several magazines and newspapers on I.T. but has switched his focus to investing; he currently writes for four leading financial weeklies – Smart Investment (in English & Gujarati), Smart Plus Newsletter (English), and Smart Bonanza (Gujarati). He also writes to other national newspapers regularly on topics related to Finance and Economics. He is a resource person on finance topics for academic institutions.

Dr. R.V.Naveenan is an Assistant Professor at the Koshys Institute of Management Studies (KIMS), Bengaluru. He has done his undergraduate in the stream of B.Sc (Physics) at Nesamony Memorial Christian College and his post-graduation in MBA Finance and Marketing from Noorul Islam College of Engineering. His area of expertise is Finance and Banking. A dedicated teacher and a dedicated student of research, he has close to 11 years of teaching experience. He worked for several institutions, including at the School of Commerce and Management Studies, Dayananda Sagar University, Bengaluru.

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Dr. Harmeet Matharu is a Doctorate in Management, PGDEM, MBA with dual specialization in Finance & Marketing and Commerce. She is working as an Assistant Professor at St. Claret College, Bangalore. She has 15 years of vast teaching and industrial experience. Having pursued her education from Punjab, she has rich experience in the academic industry catering to graduate and postgraduate students' needs in Commerce and Management streams. She has guided many postgraduate students with respect to their project works.

Dr. Matharu has shown her expertise in the fields of finance and marketing-related subjects. She has several papers published in National and International journals and presented at several Conferences. She authored a book on Banking Law and Operations for Bangalore University and on Organisational Behaviour for Mysore University. She was awarded as Indo Global Exemplary Educator award from Indo Global Chamber of Commerce and Agriculture Industries, Pune. She is a Review member for the Journal of Emerging Technologies and Innovative Research and the Associate Editor of the International Journal of Commerce and Management Studies.

CONTENTS

A STUDY ON MONETARY MOTIVATION FACTORS AND ITS IMPACT ON JOB SATISFACTION

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ABSTRACT

Every individual need motivation to do work or to perform well in his or her life. In an organization it's an essential tool for the management to have a higher productivity and job satisfaction, because if employee is satisfied, he can do the wonders in the organization. The approach of motivation is some kind of reward like salary, promotion, bonus, having good relationship with the co-workers, empowerment etc. it is one of the diving forces which human achieve their goals. There are no single factors which motivate the employees and leads to performance. So, this study is conducted to analyze the various monetary motivational factors which leads to job satisfaction and also to know the perception of employees towards the factors of motivation in Real Estates in Shimoga. The study is done by considering primary and secondary data. Secondary data is collected from various journals and the published sources over the online platforms and trusted web sources and primary data from distributing a questionnaire to 50 respondents. The study reveals that still salary is the key monetary motivation factor followed by promotion and medical allowance which leads towards organizational performance.

INTRODUCTION

The concept of motivation is probably the most researched and discussed topic in the organizational sciences (Stephens Robbins). This statement amplifies the importance of motivation in organizations.

The word motivation is derived from the Latin word 'Movere,' meaning 'to move.' It can be described as an inner state of our mind which activates our behavior and directs it. It gets us moving to act. It is still within us and is outsourced by our actions. Motivation is the desire within us to work hard and smart to achieve his / her goal.

THE MOTIVATION PROCESS

Current thinking on motivation rests on the concepts of need deficiencies and the reluctant behaviour to fulfil the needs. This involves a process consisting of six phases as shown below.

Figure 1: Six phases of Motivation Process
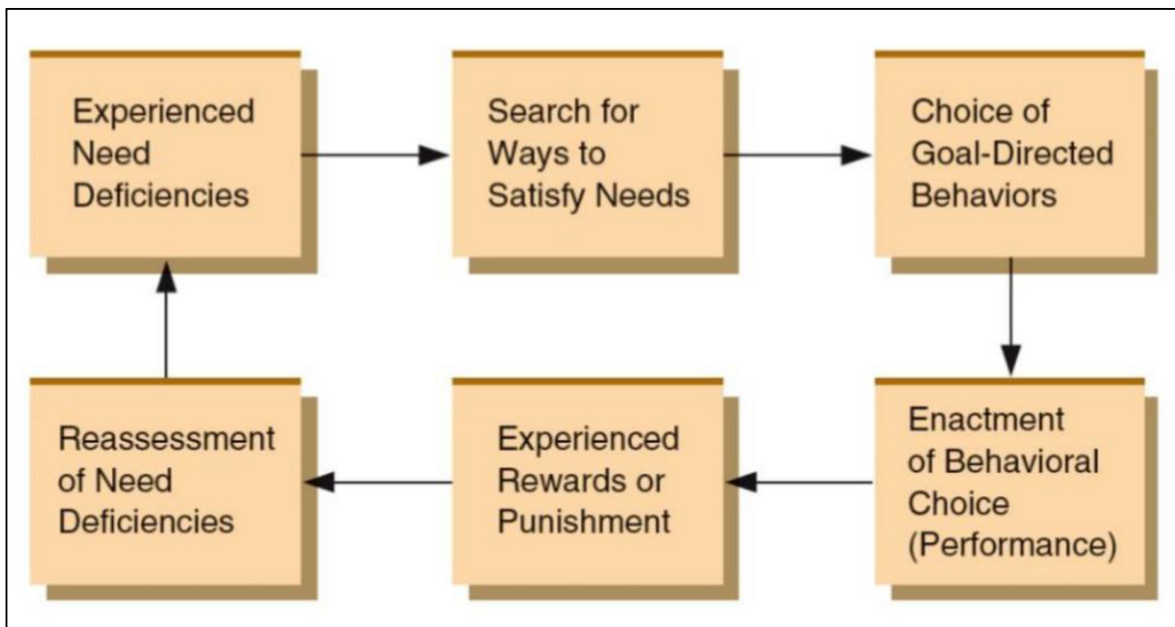
Source: Author compilation

The starting point of the motivational process is "a need." A need is a deficiency experienced by an individual. For example, a person might feel the salary given to him is not commensurate with his work. He feels he should get more. This represents need deficiency. It is also called an inner state of disequilibrium, tension, or usage.

A need triggers a search for ways to satisfy it. The person in the above example might search for ways to satisfy his need. He may ask for an increase in salary and promotion; he may work harder expecting a raise and promotion or searching for a new job with a higher salary.

In the third stage, he will have goal-directed behavior. Thus, efforts are directed at one of the best optimum to satisfy the need. In the next phase, the person actually carries out the behavior chosen to satisfy the need. The person in the example may decide to work hard. His performance is being evaluated.

In the next stage, rewards or punishment will follow the performance. The person in the example might get a promotion and higher salary due to better performance. In the last phase, the person would evaluate the extent to which the needs have been satisfied. If he had expected a salary jump of Rs. 25,000 per annum and promotion, but he gets only Rs. 15,000 hike without promotion, he may think of other alternatives or accept whatever has been given and work harder.

Job satisfaction plays a vital role in achieving the pre-determined objectives of an organization. Satisfaction is the state or feeling of being contended in whatever the person is or is doing or done. "A happy employee is a productive employee."

Job satisfaction implies enthusiasm and happiness with ones work. Job satisfaction is an important tool for inspiring staff to work harder. It is universally accepted that a "happy employee is a productive employee." Job satisfaction impacts the workers' general life since a satisfied employee is a contentious and cheerful human being.

FACTORS INFLUENCING JOB SATISFACTION

In order to determine some of the factors that result in work satisfaction, a number of research studies were performed. Such factors can be explained with the help of the following chart given below.

Figure 2: Sources of Job Satisfaction
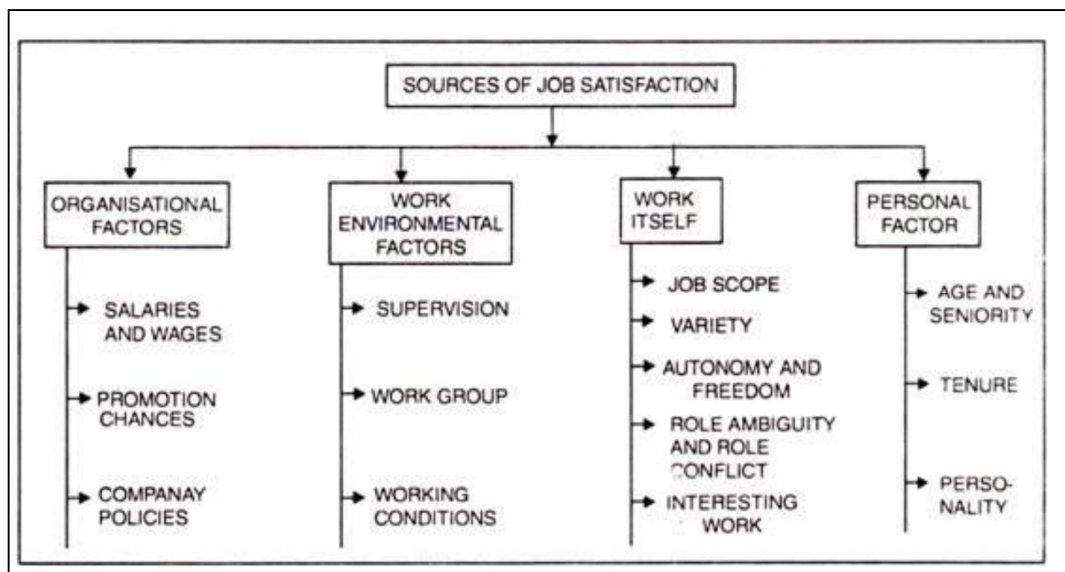
Source: Author compilation

Job satisfaction is important because most people spend a large part of their life at their workplace. In addition, job satisfaction often impacts the workers' personal life, since a satisfied employee is a fulfilled and cheerful human being. A worker who is very satisfied has better physical and mental well-being.

High job satisfaction may lead to improved productivity, decreased turnover, improved attendance, and reduced accidents, less job stress, and less unionism.

LITERATURE REVIEW

(Varma, 2017) threw light on the importance of employee motivation and job satisfaction, challenges faced, and motivation methods incorporated in the organizations. The author used both primary and secondary data for analysis. 150 responses were received, out of which 100 were considered for analysis. Some of the key HRM factors used for analysis were career advancement opportunities, training and development, performance management, compensation and benefit, recognition and appreciation, financial reward system, and work-life balance. It was found that few challenges to motivation are a dynamic environment, ignorance and less understanding of the importance of motivation, non-commitment of organization, less understanding of the employee expectations, and the factors of motivation and job satisfaction are training and development, performance management and career advancement and financial reward system are the factors which influence employee motivation and job satisfaction.

(Peters, Chakraborty, Mahapatra, & Steinhardt, 2010), This paper focuses on analyzing the conditions of the health workers with respect to their job content and working environment, extrinsic benefits, autonomy and security and transparency. Keeping these factors in consideration, the health worker's job satisfaction was assessed. They used primary data for analysis. A questionnaire was prepared and 1916 responses from 2 different states in India, Andhra Pradesh and Uttar Pradesh, were collected and analyzed using a standardized instrument. The findings of the test suggested that there were some common areas of motivation that should be concentrated upon by the managers and the policy makers, especially the non-financial motivational factors like the work environment and training opportunities. They also need to concentrate on analyzing the local issues and find solutions to them. Finally, the paper suggests that better management of allocating incentives will keep the health workers motivated.

(Solanki, 2013). The paper focuses on identifying the relationship between flexible working hours and productivity in work, job satisfaction, and motivation, and reduced stress levels. The author used both primary data and secondary data for analysis. The author incorporated an ANOVA test to test the hypothesis. The findings of the test lead to certain interpretations and suggestions. The study concluded that employees who had the opportunity to use flexible working hours were more productive and satisfied with their work than the employees who did not have flexible working hours. It also suggests that allowing flexible working hours could reduce employees work stress. Finally, it strongly recommends that the implementation of flexible working hours could benefit the organization at large as it increases work productivity and retention of productive employees for long in the organization.

(Kumar & Garg, 2011). This literature focuses on the effect of factors of motivation on the job satisfaction of employees. Both primary and secondary data was considered for this study. A total of 197 responses were considered for the analysis. This paper found the crucial relationship between the motivational factors- remuneration, working conditions, promotions, and job satisfaction an independent variable. Among the three motivational factors remuneration influences the most on the employee's job satisfaction. They also suggested that the organization must work towards framing different strategies and techniques to enhance the influence of motivational factors on the job satisfaction of employees. The study concludes with a note that organizations, while framing strategies and techniques for motivation should keep in mind the uniqueness in the situation along with the fact that there is a diverse impact on the diverse group of employees.

(Trivellas, Reklitis, & Platis, 2013), This paper throws light on the effect of stress on working employees and how it affects their job satisfaction. This study was carried out in the healthcare sector. The survey was through a questionnaire, and secondary data was collected through journals and online sources. 271 nurses operating in Greek hospitals were surveyed. Here some of the occupational stress factors like autonomy and career development affected the job satisfaction of nurses in their workplace linked to management style, job enrichment, and career opportunities, This paper gives a conclusion that conflict, heavy workload affect job satisfaction to a greater extent but lack of information and no proper feedbacks affected job satisfaction of employees.

(Azash, Safare, & Kumar, 2011), this paper focuses on the relationship between motivation and job satisfaction of bank employees. This study is conducted on the basis of Harold Koontz's need want satisfaction and Herzberg's Hygiene theory. Data is collected through a questionnaire and analyzed using SPSS software. It was found that the important factors which lead to job satisfaction in public are achievements, working conditions, advancement, interpersonal relations, personal life and policy, and in private sectors are interpersonal relations, achievement, supervision, police, this result shows that there is a mix of both motivational and hygiene factors are sources of job satisfaction as well as job dissatisfaction.

(Risambessy, Swasto, Thoyib, & Astut, 2012), This paper focuses on the impact of transformational leadership styles, motivation, job satisfaction and burnout on motivation, burnout, job satisfaction and employee performance. The study was conducted through survey questionnaire for 105 respondents at a particular hospital. The study results shows that the transformational leadership, motivation, job satisfaction have a greater positive impact on the employee motivation, employee performance, job satisfaction and negative towards burnout where the factors can prevent burnout. Burnout has a negative influence towards job satisfaction, employee performance.

(Lut, 2012) focused on the relationship between motivation and job satisfaction and the relationship between job satisfaction and work performance. The study is conducted through a survey questionnaire for 52 companies in Romanian western region in the trade sector. The results of the study say that job satisfaction leads towards performance of work and performance of work towards job satisfaction. This study also infers that the link between job satisfaction, motivation and performance of work are not constant or linear connection.

STATEMENT OF THE PROBLEM

Organizations today live in a very changeable environment, so it needs to change its manager's role and expand its employee's capabilities, responsibilities, and power to deal with such changes (Alkhaffaf, 2011). Low productivity is a problem that appears in many societies. Lot of money, energy, and time is wasted. We need motivated, rewarded, and stimulated employees to raise and enhance the commitment in order to support productivity. Organizations today live in an environment where change is constant. In order to meet the competition, organizations need to cope up with the environmental changes. Organization needs to change its managerial role and develop employees' capabilities and responsibilities to meet the changes. An employee can discharge his roles and responsibilities provided he is satisfied with his job. Job satisfaction is possible only when the employee is motivated positively. However, the factors of motivation vary among individuals. For one employee, a bonus and incentive may be the important factor, and for another, it might be the workplace environment, or the appreciation for his work may be very crucial. It is difficult to generalize the factors that motivate all employees in common and is highly diverse. It is said that an employee is a person who can make wonders and magic with his skills and knowledge and can lead the organization to the platform of success. An employee can do all these things provided he is continuously motivated and satisfied with his job. Thus, there is a need to understand the common factors of motivation and factors that keep employees continuously motivated. So, the current study examines the factors of monetary motivation and its impact on job performance.

OBJECTIVES OF THE STUDY

1. To examine the key monetary factors of motivation.
2. To determine the effect of monetary motivational factors and job satisfaction on organizational performance.

HYPOTHESIS

HYPOTHESIS STATEMENT

H1: There is a significant relationship between employee motivation and job satisfaction on organizational performance

H1: There is a significant difference between the opinion of male and female employees towards employee motivation and job satisfaction, enchasing organizational performance

RESEARCH DESIGN & METHODOLOGY

The type of research design used in this research work is exploratory type. Both primary and secondary data are used to collect the data. Secondary data was collected through the

available literature, journals, articles, amongst others. Primary data was collected through the survey questionnaire method.

SAMPLE DESIGN

The sample size taken for the study is 70 for 95% confidence level and margin of error being 5%. The data is collected from various working professionals, employees, and workers of Real Estate. The 25 questions of Likert scale with (factors of monetary and non-monetary) are given to respondents in Shimoga.

STATISTICAL TOOLS

Statistical analysis was conducted using the Statistical Package for Social Sciences software (SPSS). To examine and analyze research variables, and therefore testing of hypotheses, the following statistical tests and tools were used Mean and Standard Deviation and t-test to calculate central tendency and variance of responses of study sample to the various items of questionnaire.

DATA ANALYSIS AND DISCUSSION

Table 1: Distribution of study subjects

Characteristics	Groups	Frequency	Percent	Cumulative Percent
Gender	Male	35	70.0	70.0
	Female	15	30.0	100.0
Age Group	20 - 30 years	27	54.0	54.0
	30 - 40 years	16	32.0	86.0
	40 years and above	7	14.0	100.0
Work Experience	< 2 years	16	32.0	32.0
	2-5 years	20	40.0	72.0
	5 years and above	14	28.0	100.0
Monthly Income	20,000-50,000	31	62.0	62.0
	50,000-1 lakh	13	26.0	88.0
	1 lakh and above	6	12.0	100.0

Source: Primary Data

Table 1 shows the distribution of study subjects and descriptive statistics of respondents according to gender, age, work experience, and monthly income.

Table 2 Mean and standard deviation for each question of the employee motivation

Report

	Gender	Monetary Motivational Factors							
		Salary or wages	Bonus	Financial incentive	Promotion (monetary part-increase in pay)	Stock option	Profit sharing	Retirement benefits	Medical allowances
Male	Mean	3.943	3.600	3.543	3.857	3.229	3.086	3.486	3.800
	N	35	35	35	35	35	35	35	35
	Std. Deviation	1.1868	1.1931	1.2912	1.0885	1.2387	1.2217	1.2455	1.0233
Female	Mean	4.000	3.733	3.200	3.867	2.867	2.933	3.333	3.867
	N	15	15	15	15	15	15	15	15
	Std. Deviation	1.0690	1.0328	1.0823	1.1255	.9904	1.0328	1.2910	1.3020
Total	Mean	3.960	3.640	3.440	3.860	3.120	3.040	3.440	3.820
	N	50	50	50	50	50	50	50	50
	Std. Deviation	1.1421	1.1386	1.2316	1.0882	1.1718	1.1599	1.2480	1.1008

Source: Primary Data

The above table indicates the difference of mean and standard deviation between genders with reference to various monetary motivational factors. The key monetary motivation factors that are considered for observation are salary or wages, bonus, financial incentives, promotion, stock, profit sharing, retirement benefits, and medical allowances.

The finding indicates that salary or wages have the highest mean valued (3.960) followed by promotion (3.860) and medical allowances (3.820).

The above table indicates the significant mean difference among monetary motivation between male and female respondents. Both male and female respondents are motivated by salary or wages, promotion and medical allowance. However, the female respondents are well motivated by salary when compared with male respondents.

Table 3 shows the mean, SD, t-value of t-test between gender towards Employee motivation and job satisfaction enhances organizational performance

Group Statistics				
	Gender	N	Mean	Std. Deviation
Employee motivation and job satisfaction enhances organizational performance	Male	35	4.229	.5983
	Female	15	4.733	.5936

	t-test for Equality of Means						
						95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Employee motivation and job satisfaction enhances organizational performance	-2.740	48	.009	-.5048	.1842	-.8752	-.1344

Source: Primary Data

The above table shows the opinion of respondents towards employee motivation and job satisfaction, enchasing organizational performance. It is observed that there is a significant difference in the opinion of respondents towards the employee motivation and job satisfaction enchasing organizational performance as the $P<0.05$.

Moreover, we can observe that the female respondents are satisfied with the statement that motivation and job satisfaction enhances organizational performance when compared to male respondents.

CONCLUSION

It is a well-known fact that "A happy employee is a productive employee." For any employee to be happy depends upon the extent to which he is satisfied with the job. An employee can be satisfied with the job only when certain necessity factors are catered to him such as sufficient salary or wages, good working environment, appreciation and recognition, retirement benefits, amongst others. The best technique to keep employees motivated with their job is certain monetary and non-monetary factors. When an employee is motivated, he performs well with his job, and it provides his job satisfaction and innumerable profits to the organization.

It is challenging for the HRM department to retain experienced and good employees. It is necessary to keep these employees happy in order to retain them. To keep an employee happy is to keep their mind and body healthy and fit. An employee can be happy only when he is satisfied with his job, and he should feel that his organization is taking care of them.

REFERENCES

1. Azash, S. M., Safare, R., & Kumar, M. (2011). THE MOTIVATIONAL FACTORS AND JOB SATISFACTION: A STUDY ON SELECTED PUBLIC AND PRIVATE SECTOR BANK EMPLOYEES IN KADAPA DISTRICT, ANDHRA PRADESH. *International Refereed Research Journal : Journal of Arts, Science & Commerce , 2* (4), 161-168.

2. Kumar, N., & Garg, P. (2011). Impact of motivational factors on employee's job satisfaction- A study on some selected organization in Punjab, India. *ASIAN JOURNAL OF MANAGEMENT RESEARCH , 2* (1), 672-683.

3. LUT, D. M. (2012). Connection between Job Motivation, Job Satisfaction and Work Performance in Romanian Trade Enterprises. *Economics and Applied Informatics* (3), 45-50.

4. Peters, D. H., Chakraborty, S., Mahapatra, P., & Steinhardt, L. (2010). Job satisfaction and motivation of health workers in public and private sectors: cross-sectional analysis from two Indian states. *Human Resources for Health , 8* (27), 1-11.

5. Risambessy, A., Swasto, B., Thoyib, A., & Astut, E. S. (2012). The Influence of Transformational Leadership Style, Motivation, Burnout towards Job Satisfaction and Employee Performance. *Journal of Basic and Applied Scientific Research , 2* (9), 8833-8842.

6. Solanki, K. R. (2013). Flextime Association with Job Satisfaction, Work Productivity, Motivation & Employees Stress Levels. *Journal of Human Resource Management , 1* (1), 9-14.

7. Trivellas, P., Reklitis, P., & Platis, C. (2013). The Effect of Job Related Stress on Employees' Satisfaction: A Survey in Health Car. *The 2nd International Conference on Integrated Information* (pp. 718 – 726). Elsevier Ltd.

8. VARMA, D. (2017). MPORTANCE OF EMPLOYEE MOTIVATION & JOB SATISFACTION FOR ORGANIZATIONAL PERFORMANCE. *International Journal of Social Science & Interdisciplinary Research , 6* (2), 10-20.

CSR INITIATIVES AND ECONOMIC DEVELOPMENT: A CRITICAL ANALYSIS WITH SPECIAL REFERENCE TO ITC LIMITED

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ABSTRACT

Social responsibility of business has been one of the most talked about and widely supported subjects. Over the few decades in India and rest of the world corporate social responsibility become comprehensive one enough to include anything which able to welfare of the community as a whole. Business organizations are an integral part of the community where they are operating there functions. Corporate Social Responsibility is a conceptualization of corporate groups responsiveness towards various groups such as customers, employees, environment, societal groups etc. As a concept CSR has gained momentum recently in India, but as a way of life Indians have practiced since times immemorial to affects social welfare and social well beings. In this research paper the researcher tries to critically analyze about the CSR initiatives through which economic development takes place in case of ITC Limited. The whole study is based on secondary data which is exploratory in nature. The outcome of this paper reveals about the performance as well as activities of ITC Limited as a part of corporate social responsibility towards economic development of the rural folk.

INTRODUCTION

Corporate Social Responsibility is a concept that has become dominant in business reporting. Every corporation has a policy concerning CSR and produces a report annually detailing its activities. The concept of business having a responsibility towards society can be traced back to medieval artisans caring for the local tribes and villagers, but formally appeared in the United States around the start of the twentieth century (Herald, 1970). Corporations began to establish foundations where corporate wealth was distributed to specific special causes or nonprofit organizations. CSR occurs when a business firm consciously and deliberately acts to enhance the social well-being of those whose lives are affected by the firm's operations. This core generic meaning of CSR signifies that it may be present in a wide variety of business and economic contexts, from the smallest firms and simplest firms to the largest and most complex organizations. CSR connects the two pillars of the society-business operations with human communities' social system and institutions creating an organic linkage of the business and society. The main purpose of this relationship is to achieve a balance between the firm's economic operations and society's aspirations and requirements for community welfare. A quote from Ishavaishya Upanishad describes, "All that exists in this universe is the abode of the Almighty; therefore enjoy the good things in life by giving them out with others. Do not crave the belongings of others".

CSR LEGISLATION IN INDIA

 The companies Act 2013 made a notification on February 27, 2014 under Section 135 that CSR is compulsory for all companies, government or private or otherwise provided they meet any or one or more of the following fiscal criteria (9):

1. The net worth of the company should be Rs. 500 crores or more,
2. The annual turnover of the company should be Rs. 1000 Crore or more
3. The annual net profit of the company should be at least Rs. 5 Crores.

If the company meets any one of the three fiscal conditions, it must have to create a committee to enforce its CSR mandate, which includes at least three directors, out of which one should be an independent director. This committee should have the responsibility of

1. Creation of an elaborate policy to implement CSR activities,
2. Allocate and audit the money for different CSR purposes,
3. Issuing of annual report on the various CSR activities,

The committee must ensure that the local issues and regions are looked into first as a part of CSR activities.

The Company Act, 2013 also put Schedule (VII) where CSR activities are listed. The activities are eradicating hunger and poverty, promotion of education and employment, livelihood enhancement projects, promoting gender equality, women empowerment, hostels for women and orphans, old age homes, daycare, environmental sustainability, protection of flora and fauna, contribution to PM Relief fund, measures to benefit armed forces veterans, war widows and dependants, promotion of sports and rural development projects.

As a company whose fiscal criteria falls according to the Companies Act, 2013 has to ensure that at least 2 percent of the net profit earned by the company is spent on CSR-related activities.

SIGNIFICANCE OF THE STUDY

Corporations are creatures of society and should therefore respond to the demand of society. Now a day ignoring the societal part of organization, it is impossible to survive in the long run. The long-term self-interest of business is best served when business assumes social responsibility. So it is very much relevant to study how corporations are engaging themselves in up liftman of the community as a whole. Again, if the business does not assume social responsibility voluntarily, the government will intervene. The researcher, through this study, tries to analyze the responsibility towards the community of ITC Limited, which helps eradicate hunger and poverty, economic development of the targeted rural areas.

LITERATURE REVIEW

Teodorescu M & Lonescu D. (2014), in their paper entitled "Corporate social responsibility-Sustainability and profitability," tries to study about the theoretical framework of sustainability and how does it help in increasing the profitability of an organization. Through this paper, the researcher provides guidelines for developing of engagement plan in CSR activities. Different action plans of corporate social responsibility for environmental sustainability, community and social involvement, and ethical marketing practices for corporate social responsibility are discussed.

Shyam R. (2016) in his research paper entitled, "*An analysis of corporate Social Responsibility in India*" studied the concept of CSR, its development, challenges and policies governing CSR and various CSR initiatives in India. The paper is exploratory research based on secondary data. In this paper, several Indian corporations CSR activities were studied as of Welspun Energy Ltd, which initiate programs like Training the trainer enrolling children in schools, healthy baby competition, and Skill Development for women. HUL depends on sustainable sources of raw materials and is committed to minimizing the environmental impact, improving sustainability throughout the value chain. Elin Appliances has pledged an amount to 2% of profit after tax on a yearly basis for the company's CSR initiative. However, some challenges are facing in implementing CSR activity which, according to the paper, lack of community participation, need to build local capacities, and non-availability of well-organized NGO.

Zelazna A, Bojar M & Bojar E (2020). in their paper entitled, "Corporate Social Responsibility towards the Environment in Lublin Region, Poland: A comparative study of 2009 and 2019," tries to present research findings from the study carried out in 2019 and compare these findings within the study carried out in 2009, in order to identify and analyze the most frequent environmental activities undertaken by enterprises operating in the Lublin region. The researcher used the ranking method, and last 10 years respondents' opinion were shown on the most effective economic instruments used in pursuing ecological policies remained unchanged. The researcher pointed out that enterprises take social responsibility very seriously, undertakes efforts to reduce their negative impact on the environment and

the health of their employees. The study also reveals that businesses most often undertake environmental protection activities that are aimed at minimizing waste and emissions to water and soil through innovative technologies and investment in pro-environmental infrastructure.

OBJECTIVES OF THE STUDY

To study the CSR activities of ITC Limited in the field of economic development through eradication of poverty.

METHODOLOGY

This research study is basically explorative in nature and used secondary sources of data from journals, annual reports, magazines, books, and relevant websites of the respective company. The researcher undertakes the study with special reference to ITC Limited.

COMPANY PROFILE

ITC Limited is one of India's foremost private sector companies with a gross sales value of Rs. 76097.31 Crores and net profit of Rs. 15136.05 Crores (as of March 31, 2020). ITC Limited has a diversified presence of FMCG, Hotels, Packaging, paperboards & Specialty papers, and agribusiness. ITC Limited aspiration to be an exemplar in sustainability practices is manifest in its status as the only company in the world, of its size and diversity, to be carbon, water, and solid waste recycling procedures. ITC Limited value chains create a sustainable livelihood for more than 6 million people, a majority of whom represent the poorest in rural India.

ITC LIMITED CSR POLICY

Recognizing that business enterprises are economic organs of society and using societal resources, ITC Limited believes a company's performance must be measured by building economic, social, and environmental capital to enhance social sustainability. The policies are:

1. To direct ITC Limited's CSR programs like enhancing environmental and natural capital, supporting rural development, promoting education, providing preventive healthcare etc.
2. To engage in skill-building and vocational training to enhance employability and generate livelihood for persons from a disadvantaged section of society.
3. To carry out CSR activities in local areas to fulfill commitments arising from a request by Government/regulatory authorities and to earmark enterprise social responsibility activities.
4. To provide equal opportunities to beneficiaries of the company's CSR program as vendors or employees on a merit basis.

ITC Limited implements its CSR Programme through Company personnel or through agencies, ITC education trust, Rural Development Trust, ITC Sangeet Research Academy etc.

CSR INITIATIVES AND ECONOMIC DEVELOPMENT

Agriculture holds a key position in India's sustainable development story. The Indian Agriculture sector is facing several challenges, such as low productivity, dependence on rain, need for high resources and footprints in terms of water use, climate change, farmer distress, and the inability to create next-generation farmers with agriculture. Governments began to use agriculture analytics to provide real-time governance. (Sreeya, 2020) In this context, ITC Limited provides a unique opportunity to engage with farmers across the country and helps to face the challenges confronting them.

NITI AAYOG AND ITC LIMITED PARTNERSHIP

ITC entered into a partnership with NITI Aayog in 2018 for the improvement of agriculture and allied sector in 27 districts of 8 states (Assam, Bihar, Jharkhand, Madhya Pradesh, Maharastra, Odisha, and Uttar Pradesh) under Mission Sunehs Kal.

The project targets building the capacity of government extension staff to create a cohort of Master-Trainer to disseminate sustainable agriculture practices amongst farmers. The training contents were developed in consultation with Consultants of agriculture universities and Krishi Vigyan Kendras, and kits for training were designed in 4 local languages, namely-Hindi, Marathi, Assamese, and Odiya, for 15 major Kharif and rabi crops.

In addition, ITC Limited trained farmers directly by establishing farmer's field schools to provide field demonstrations in 1350 villages.

Table 1: Information related to ITC Limited Farmers Training Programme

Year	Activities undertaken
2019-20	a. 6011 government staff were trained as Master Trainer and village resource person. b. 9.73 lakhs farmers were trained, and additional 2.43 lakhs farmers were trained through ITC Farmers Field Schools
2018-19	a. 15.58 lakhs of farmers have been trained under this program.

Source: Author compilation

ITC Limited also undertakes some additional instrumental activities that have a positive impact on agriculture and allied sector livelihoods.

1. Create awareness amongst farmers on various Government schemes and helps farmers in applying for those schemes.
2. Recommended improvements based on stakeholder's feedback to NITI Aayog for 10 major agriculture schemes.
3. Assessed e-nams are operating in the 27 districts.

LEVERAGING E-CHOUPAL FOR ENABLING MARKET ACCESS

The ITC Limited e-choupal Network leverages information technology to empower farmers in terms of infrastructure, connectivity, price discovery, and market access. The e-

choupal network raises farm productivity and enhances farmer income through value chain reorganization. The ITC Limited e-choupal was launched in June 2000 today is the largest initiative among internet-based intervention in rural India. It has empowered more than 4 million farmers in over 35000 villages through 6100 kiosks spread across ten states.

The ITC Limited e-choupal has expanded to over 80,000 registered users and provides access to weather information, a crop-specific package of practices, and a social forum for sharing their ideas.

CREATING SUSTAINABLE LIVELIHOOD

ITC's formidable distribution network covers over 1, 00,000 markets and over 6 million retail outlets directly and indirectly across various trade channels. Suneha Kal of ITC is committed to empowering grassroots institutes to enable communities to independently manage their resources and become change agents without having to depend on external agents.

Table 2: Performance of ITC Limited Mission Suneha Kal

Initiative	Achieved till 2019-20
Sustainable Livelihood Today	
Social Forestry	364240 Acres
Sustainable Agriculture	567737 Acres
Biodiversity Conservation	17456 Acres
Watershed Area	1133703 Acre
Water harvesting Structure	18985 No's
Creating capabilities	
Children Covered	775013 No's
School Covered	1842 No's
Youth Enrolled	81510 No's
Toilet Constructed	37594 No's
SWM Households	313228 No's

Source: ITC Sustainability Report, 2020

INTEGRATED ANIMAL HUSBANDRY PROGRAMME

This Programme provides an opportunity for farmers to diversify their livelihood portfolio and reduce primary dependence on agriculture by enhancing productivity. This program provides extension services in 19 districts of 5 states. During 2019-20 about 1.38 lakhs of artificial insemination was carried out, leading to the birth of 0.56 lakhs of high-yielding progenies. In addition, 70032 cattle belonging to 40989 dairy farmers of 484 villages in 8 districts of Bihar and 2 districts of West Bengal were supported through 474 training programs.

CHALLENGES IN IMPLEMENTING CSR

A lack of understanding, inadequately trained personnel, non-availability of authentic data-specific information on the kinds of CSR activities coverage, the policy further adds to the reach and effectiveness of the CSR Programme. The success of CSR lies in participating in it as a core part of a company's development strategy. The corporate sector needs to identify, promote and implement successful policies and practices that achieve triple-bottom-line results. It is a joint and shared responsibility of social activists and government.

RECOMMENDATIONS

1. CSR should not be seen simply as the spending of financial resources but the smart spending of CSR resources.
2. CSR activities should be based on expert data. Companies should not blindly spend fiscal resources but must rely on the recommendations of a research institute so that companies' efforts result in actual benefits of social problems.
3. Companies engaging CSR related activities should collaborate with the people on the grassroots level that means those who are supposed to receive their CSR benefits. These practices will help them understand and realize what actually people of the area need and their actual problems.
4. For better implementation of CSR of the Company have to build support with senior management and employees. Research and development should conduct time to time for getting an updated mechanism of CSR strategy.

CONCLUSION

Social responsibility is an important and relevant topic in the modern business era. In addition to business leaders are always try to lead values in terms of legal, moral, and social. ITC India Ltd is one of the private sector companies that engage in corporate social responsibility activities that lead to the nation's sustainable development. ITC involves eradicating poverty through different initiatives, Partnerships with NITI Aayog, agricultural development as well marketing and animal husbandry, and many more. It was observed from the study the ITC contributes to social responsibility a lot, and the rural folk has to serious about the schemes that are targeted for economic development.

REFERENCES

1. Teodorescu M & Lonescu D, (2014), "Corporate Social Responsibility-Sustainability and Profitability" *International Letters of Social and Humanistic Sciences,* vol. 14, ISSN: 2300-2697, Pp-50-58.
2. Shyam R. (2016), "An analysis of Corporate Social Responsibility in India," International Journal of Research-Granthaalaya, vol. 4, Issue-5, ISSN: 2394, 3629, Pp-56-64.
3. Zelazna A, Bojar M & Bojar E (2020). "Corporate Social Responsibility towards the Environment in Lublin Region, Poland: A comparative study of 2009 and 2019" *Sustainability-2020*, 12, 4463, Pp-1-13.
4. ITC Sustainability Report, 2020 accessed on 24/02/2021 at 09 PM.
5. www.blog.ipleaders.in/csr-laws-india/ accessed on 22/02/2021 at 11.30 PM
6. www.itcportal.com/about-itc/index.aspx. accessed on 23/02/2021 at 10 PM.
7. www.itcportal.com/about-itc/policies/corporate-social-responsibility-policy.aspx.   accessed on 23/02/2021 at 10.30 PM.
8. Sreeya, Narra. (2020, September). Real-Time Governance System in Farming: A Cross-Country Comparison. In Perspectives on Business Management & Economics (Vol. II, pp. 146-162). Retrieved from http://www.pbme.in/papers/92.pdf

CORONAVIRUS DISEASE (COVID-19) AND NEW BUSINESS PRACTICES

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ABSTRACT

The current chapter intends to look into the effect of COVID-19 pandemic on firms, the practices of consumers and the new business practices by firms. The effects of COVID-19 on consumer and consumer practices include: online purchases; compulsive hoarding; the store comes home; blurring of work; reunions with friends and family; improvisation; and discovery of talents. Also, the new business practices adopted by firms include: technology; employee management and cost-cutting; new product development opportunities; cleanness and hygiene; delivery; and meetings held by firms. Research has demonstrated that the pandemic has affected consumer behaviour. Many firms are therefore (have) innovated (innovative) in order for them to adapt to new conditions. The epidemic has greatly affected all states, continents, regions, urban and rural communities, families, and, inevitably, each person's thoughts and way of living, and we may never return to the normalcy that existed prior to COVID-19.

INTRODUCTION

A socioeconomic sentient crisis that ambushed the center of human life is the viral infection of the coronavirus (COVID-19). It begins to escalate worldwide uncontrolled way, with global infections growing up since early 2020. (WHO, 2020). The COVID-19 pandemic has affected all people, particularly the elderly, the disabled, the disempowered, and the poor (Donthu & Gustafsson, 2020). This considerable challenge is without precedent and forced organizations to develop new solutions to adjust to the new normal (Carnevale & Hatak, 2020). Permissive lockdown rules and welfare practices worldwide have greatly affected consumer behavior (Sheth 2020a). The governments of many African nations decided to save lives before actually fixing the economy, declare sudden or phased lockdowns in their countries in response to a pandemic outbreak. Policies such as "social distancing" and "homestay" were implemented overnight, causing severe damage for several companies across industries (Donthu & Gustafsson, 2020; Leite, Hodgkinson, & Gruber, 2020). COVID-19 has also forced companies around the world to operate more quickly and resiliently (Verma & Gustafssonb, 2020) as companies change their priorities to meet old challenges, such as decisions in real-time, the productivity of workers, continuity of business, and safety risks, more recent challenges brought about by the pandemic test the resilience of companies while trying to lay the foundations for tomorrow (Ivanov, 2020).

Each study has its own set of constraints, although several recent studies on bibliometric research have dealt with the impact of COVID-19 (Chahrour et al., 2020; Hossain, 2020; Park, Cook, Lim, Sun, & Dickens, 2020). In articles published in the PUBMED and the World Health Organization (WHO), Chahreur et al. (2020) only examined the most influential observational and therapeutic study. Hossain (2020) pointed out that pandemic research into socio-economics should be extended to COVID-19.

The study has two main focuses: to directly substantiate the influence of the epidemic on the firms' undertakings and consumer behavior. Secondly, companies must identify numerous marketing practices to deal with the ongoing crisis and align the strategies with different cash flow effects to help business practitioners and researchers realize the impact of the pandemic on new business practices.

Based on the above objectives, the chapter contributes to the literature in several aspects. First, it complements existing articles investigating the consumer economic impact of COVID-19 by providing evidence on a situation concerning consumption in Ghana. Second, the

literature review provides a unique perspective on how firms have been reacting to the pandemic. Third, we further examine how the impact of the pandemic on firms. The paper contains sections that describe the literature, conclusion and future avenues for research.

THE EFFECT OF COVID-19 ON FIRMS

The significance of state intervention on the manufacturing and services sectors during the COVID-19 crisis was discussed by Rathore et al. (2020). To learn the expectations of business owners during the crisis, the writer conducted their primary research in micro-small and medium-sized firms. The smallest enterprises saw stringent emergency government measures. Up to 70 percent of these companies said they would not survive the crisis after three months if the lockdown continues.

When it comes to consumer behavior, habits influence what, when, and where people buy things (Sheth 2020b). Not only have consumption patterns changed as a result of the pandemic but so have sales-force activities (Hartmann & Lussier 2020). The pandemic has accelerated significant structural changes worldwide, particularly in digital business transformations (Kim 2020). Restaurants and retail outlets, in particular, have been hit the hardest (Baker et al. 2020). Luxury and high-end retailers are also hurting, with fewer value-oriented brands and specials available (Roggeveen & Sethuraman 2020). On the other hand, several adaptable brands have adapted quickly and are showing new signs of growth during this time (Knowles et al., 2020).

According to a market research report by the SAA research agency, Samsung electronics durable goods (e.g., televisions, washing machines, air conditioners, refrigerators, microwaves, and vacuum cleaners) had a gross market share of 46 percent of the Iraqi market in 2019. (Ali, 2020; Shaswar, 2020). The fact that this accounts for nearly half of the Iraqi market is significant. Starting in February 2020, when the virus first appeared in Iraq, the COVID-19 pandemic was associated with a decrease in sales of Samsung electronics consumer durable goods, according to the data. It was also linked to a gradual drop in sales compared to the previous year. Compared to the first half of 2019, total sales in the first half of 2020 decreased by 24%. Also, consumption shifted to more essential items like food.

EFFECTS OF COVID-19 ON CONSUMER AND CONSUMER PRACTICES

All consumption and consumer behavior are anchored to time and location. Since World War II, more and more women have been working, resulting in the reduction of discretionary time. It is estimated that today more than 75 percent of all women with children at home are working full-time (Sheth, 2020a). In particular, customer expectations and buying behaviors have changed substantially during the COVID-19 crisis (Kantar, 2020a), making it much more critical for a company to rely on the development of its marketing survival strategies.

ONLINE PURCHASES

Consumers have grown accustomed to online purchasing and the delivery of products to their doorsteps from anywhere in the world, which has revolutionized many sellers' marketing strategies in recent decades (Bucko, Luká, and Martina 2018; Mohammad et al. 2018). When it comes to shopping, most consumers are making more online purchases during COVID than they were previously, while others are shopping in stores less frequently. Moran (2020) argued that when people shop for products and services online, their shopping habits change because online businesses have more control over the process, including unprecedented access to buyer data and demographics. Consumers did not believe that online firms would use manipulative tactics and deceptive practices to increase online shopping, according to the study, when compared to offline spending (Ali, 2020). After months of tempered activity, 22 percent expect to maintain a higher frequency of online shopping, while 28 percent expect to increase their in-store shopping frequency. Finally, on Facebook, Instagram, WhatsApp, Twitter, and Zoom, COVID-19 has increased its use of social media. They are generating a massive amount of data from word-of-mouth. With video conversations, current analytic techniques are not as effective. Scholars will have to develop new techniques to analyze video content, similar to how we developed Natural Language Processing (NLP) to analyze text data. These techniques will most likely be based on machine learning and artificial intelligence (Sheth, 2020a). On the other hand, small producers have seized the opportunity of home delivery to reach their final customers (Ali, 2020).

COMPULSIVE HOARDING

Consumers are stockpiling essential products for daily consumption, causing shortages and stockouts. Toilet paper, bread, water, meat, disinfectants, and cleaning supplies are all included. Hoarding is a common reaction to dealing with the uncertainty of future supplies of necessities. When a country experiences hyperinflation, as is the case in Venezuela, hoarding is a common practice. In addition to hoarding, the gray market has emerged, in which unlicensed mediators hoard the product and raise the price. This has occurred in PPE (personal protective equipment) for healthcare workers, such as N95 masks. Finally, the temporary increase in demand caused by hoarding encourages the sale of counterfeit goods.

THE STORE COMES HOME

Consumers in countries such as India, South Korea, China, Italy, and others cannot go to the grocery store or shopping malls due to complete lockdown. Instead, the store comes to the consumer. Work and education play a role as well. Work, education, health, and purchasing and consumption all flow in the opposite direction due to this. Everything, including streaming services like Disney, Netflix, and Amazon Prime, is now available for home delivery, breaking the odd habit of physically going to brick-and-mortar stores. Consumer behavior is also becoming more convenient and personalized as a result of it. We need to conduct an empirical study to see how "IN-home everything" affects consumer impulse purchases and planned vs. unplanned consumption (Sheth, 2020).

BLURRING OF WORK

Life Boundaries. Consumers are prisoners in their own homes, with limited space and too many discrete activities like working, learning, shopping, and socializing. This is similar to having too many wants and needs with limited resources. As a result, the lines between work and home and between tasks and chats are blurring. To make the home more efficient and effective, one will need a schedule and compartmentalization.

REUNIONS WITH FRIENDS AND FAMILY

One of the most significant effects of the coronavirus is the urge to contact distant friends and family, partly to check in on them and partly to share stories and experiences. Reunions from high school or college, as well as family weddings, are similar to this. What used to be ad hoc get-togethers to stay in touch has evolved into regular and scheduled gatherings to share information and experiences. We are all sitting on our porches, talking to our neighbors around the world, symbolically. The global reach of social gatherings via social media platforms like Zoom and WhatsApp is astounding. (Sheth, 2020)

IMPROVISATION

When faced with constraints, consumers learn to improvise. Existing habits are discarded in the process, and new ways of consuming are created. Consumers' creativity and resilience were unleashed by the coronavirus for traditional activities like weddings and funeral services. Sidewalk weddings and Zoom funeral services are replacing traditional location-centric events. This was also the case during church services, particularly on Easter Sunday. Another area of future research is improvisation to deal with product or service shortages (Pantano, Pizzi, Scarpi, & Dennis, 2020).

DISCOVERY OF TALENT

Consumers have explored recipes, performed their talent, and performed innovative and unique ways to play music, share learning, and shop online more creatively with more flexible time at home. Consumers are becoming producers with commercial potential as a result of some of them going viral. There are many videos on YouTube and its competitors that can be innovative and commercially successful. (Sheth, 2020)

NEW BUSINESS PRACTICES

Some studies have begun to look into effective strategies to help B2B firms respond to the crisis, with various theoretical and practical focuses. B2B firms, for example, should focus on the four areas of digital transformation, decision-making processes, leadership, and emotion and stress, according to Cortez and Johnston (2020). Many companies have also implemented various mitigation strategies, including remote working, reduced hours, furlough schemes, closed offices, and redundancies. (Opinium Research, 2020) These occurrences have posed particularly severe challenges in specific industries, causing the rapid decline and eventual

exit of various types of businesses, including small and large businesses. (Amankwah-Amoah, Khan & Wood, 2020)

TECHNOLOGY

One of the main ways to counter the COVID-19 spread has been to confine people to their homes with minimal opportunities to leave, except for essential activities (Cohen and Kupferschmidt, 2020). (Brem et al., 2021). Around 2.3 billion people were confined to their homes by March 25. Suri et al., 2020 estimates that India accounted for 1.3 billion of these, with the remaining 900 million spread across 35 other countries (Agence France-Press, 2020). COVID-19 is highly contagious and spreads from person to person (Chan et al., 2020), so people have been advised to avoid close contact and maintain a safe distance (WHO, 2020a). As a result, the COVID-19 outbreak is expected to hasten the adoption of AI and robotics in the hospitality industry. People who are confined to their flats and houses are forced to change their habits. COVID-19 poses severe global challenges that can be addressed with various digital technologies, including the Internet of Things, artificial intelligence, big data analytics, and drones (Donthu & Gustafsson, 2020).

This shift has given rise to new opportunities in the six digital technologies listed below (Brem et al., 2021). Large-scale confinement has resulted in a significant increase in the use of Internet streaming services. People are watching more news, movies, and TV shows online (Bhargava et al., 2020), and streaming provides real-time information and entertainment beyond the general Internet (Barnes and Mattson, 2017). This could spell the end of traditional broadcast television and the rise of Internet streaming (Shim and Shin, 2019), which allows users to watch movies and shows on demand. As a result of reduced economic activity, cross-sectoral innovation has seen a significant increase as companies from a wide range of industries find themselves with excess capacity and decide to use this resource to help overcome the crisis (Brem et al., 2021). The fusion of ideas from various sources generates new energy for innovation (Lee & Trimi, 2021). Firms take advantage of rapidly emerging Internet platforms where transactions can be made without traditional interpersonal contact and transfer all (or at least part of) traditional business to online channels as an example of this responsive strategy (e.g., Chen & Zhao, 2020; ChinaSSPP.com, 2020a; Lu, 2020). As a result, during the COVID-19 crisis for online retailing, which has emerged in recent years, e-commerce live streaming is becoming increasingly popular. Initially, online celebrities shared their product consumption experiences, which evolved into product recommendations in collaboration with businesses (Cunningham, Craig, & Lv, 2019). Peacebird, a clothing brand, quickly adopted this strategy during the COVID-19 crisis, inviting superstars, online celebrities, and even corporate CEOs to sell goods in live broadcasts and develop a new virtual connection with their existing customers (Zhou, 2020). According to relevant evidence, during the COVID-19 crisis, the average daily retail sales of Peacebird exceeded 8 million with this marketing innovation strategy (ChinaSSPP.com, 2020a).

EMPLOYEE MANAGEMENT AND COST-CUTTING

In reaction to the COVID-19 pandemic crisis, businesses can use retrenchment or even exit strategies (e.g., reducing product lines, downsizing workforces, or discontinuing business activities) to cut costs and free up cash flow (Wenzelet al., 2020). Although these response strategies are unavoidable for some businesses in the short term, they may harm their long-term growth. Long-term response strategies are frequently advocated and proven effective (Kang, Diao & Zanini, 2020). In the medium or long run, emphasizing comprehensive market development (e.g., R&D and marketing), targeting new investment (e.g., plants and machinery), persevering (e.g., sustain business activities), and innovating (e.g., renew firm's strategies) are expected to generate and preserve sufficient cash flows (Gulati et al., 2010; Wenzel et al., 2020).

NEW PRODUCT DEVELOPMENT OPPORTUNITIES

As necessary as the mother invention, the herald of this disastrous pandemic can become an opportunity for innovative businesses. Medical technology is rapidly evolving, and new approaches to dealing with the COVID-19 crisis will eventually lead to more entrepreneurship (Kuckertz et al. 2020). New products developed with market-oriented technology can better meet key customer needs than existing products. Firms can launch market-breaking innovations to meet new customer demands during a crisis (Narayandas et al., 2020). Firms can, for example, investigate new product lines to produce goods that are particularly needed in this pandemic crisis (Kang et al., 2020). Distillation companies can make hand sanitizers and disinfectants with their existing equipment (Obal & Gao, 2020). To speed up business processes, companies can emphasize technological breakthroughs and invest in digital programs that coordinate product design activities (Narayandas et al., 2020). This is because digital programs (such as self-solve and troubleshooting systems, industrial Internet monitoring platforms, and cloud computing) can improve the resilience of a company's infrastructure, systems, and production processes, and thus its ability to respond to a crisis (Rapaccini et al., 2020; Sheth, 2020b). Additionally, businesses can redesign and develop new solution prototypes. Restaurants, for example, could offer a new combination of precooked dishes with sides or additions that customers could prepare at home (Guillen, 2020).

CLEANNESS & HYGIENE

Many people have started to re-evaluate their lifestyles amid the COVID-19 pandemic (Wang et al., 2020) and concentrate on physical and mental well-being. Because COVID-19 can be spread by touching virus-infected surfaces, the cleanliness of businesses such as hotels has become increasingly important (WHO, 2020b). Business attire is more likely to be filthy, contain higher microbial counts, and provide potential disease transmission sources (Park et al., 2019). Besides, COVID-19 infection via aerosol transmission via central air conditioning is a possibility (Zhang et al., 2020). Increased cleanliness and sanitization to prevent or limit the spread of disease can be promoted as a selling point during and after the pandemic, given the growing consumer demand for hotel hygiene following the COVID-19 outbreak (Jiang & wen, 2020).

Furthermore, because achieving a higher level of cleanliness may necessitate investments in technology, equipment, and resources, future research should consider how far different types of hotels should improve sanitation practices (Jiang & wen, 2020). Hygiene can refer to more than just sanitization. It can also refer to various aspects of health care. When planning trips in the aftermath of the COVID-19 pandemic, customers are likely to be more concerned about general healthcare access, such as seeking medical help if they become ill (Jiang & wen, 2020).

DELIVERY

The restriction or heavy control of physical retail in countries where lockdowns are in place has led to an increase in the use of e-commerce. In the United States, e-commerce penetration increased from 16 percent to 27 percent of total retail in the first quarter of 2020; previously, it took ten years to achieve a similar 11 percent increase, from 2009 to 2019. (McKinsey, 2020). While electronics and apparel have seen significant increases in popularity among users in the United States (Kohan, 2020), the grocery industry has seen significant changes. In China, for example, online sales of food items increased by 26.4 percent in the first two months of 2020, compared to 20.2 percent the year before (Kang, 2020). The main stumbling block is a shortage of delivery personnel. While Amazon is hiring over 100,000 people worldwide, many local and regional supermarkets have stopped or severely limited their online ordering services. Surprisingly, the COVID-19 crisis has not pushed the use of drones for home delivery, a technology that Amazon has been developing for years but has been put on hold due to legal issues (Nakamura and Kajikawa, 2018).

MEETINGS HELD BY THE FIRMS

As of the end of the Chinese New Year in January 2020, approximately 200 million Chinese citizens worked remotely (Bick et al., 2020b). We estimate that about 110 million people in the EU and 54 million in the US were teleworking as of March 2020, based on data from the European Union (Eurostat, 2020) and the US government (Desilver, 2019). With the rise of teleworking, videoconferencing tools like Apple's FaceTime, Cisco's Webex, Microsoft's Skype, or Zoom have been on the market for a long time (Zec and Matthes, 2018), have seen massive growth (Lev-Ram, 2020). According to Gallup, 43 percent of American employees work remotely in 2017, and with the COVID-19 crisis, that number has risen to around 90 percent (Bick et al., 2020a). The surge in videoconferencing may continue as people become more comfortable with teleworking. This could lead to fewer face-to-face meetings, fewer short international trips, and, in the long run, more flexible work environments in a wider range of industries.

SUGGESTIONS FOR FUTURE STUDIES

COVID-19 continually attracts researchers who provide diverse approaches to research in the field of business and management. Due to the growing complexity of the travelers demand following the outbreak COVID-19 (Wen et al, 2020), further research could examine why deep education is essential for the personalization of hotel services and the way in which

large data and AIs can be used to capture differences in service perceptions (Huang and Rust, 2020; Mariani, 2019; Mariani et al., 2018). Hoteliers must strive to use the power of large data to achieve or sustain a competitive advantage via service quality (Mariani, 2019; Mariani et al., 2018; Mariani and Perez Vega, 2020).

Future research should consider the use of big data analytics in organizational settings for AI, hygiene, and medical care to address ongoing technological change all over the business sector (Mariani, 2019; Mariani et al., 2018; Mariani and Perez Vega, 2020). Besides, upcoming research should exploit the power of big data analytics to highlight several issues at the junction of the three identified areas, namely IA and robot technology, hygiene and cleanliness, health and health care. Large data applications make promises and create challenges (Davenport and Ronanki, 2018; Mariani, 2019; Mariani and Perez Vega, 2020). Therefore, it would be helpful to consider how technological approaches should be implemented in hotels to minimize possible service interruptions and avoid service defects that could jeopardize guest loyalty.

CONCLUSION

Concerning companies, in particular, the universal panic linked to COVID-19 may have lasting effects. Effective strategies are required to boost customers' confidence and help businesses recover promptly following the crisis. The resilience and sustainability of companies can be strengthened through various consumption needs and measures to turn adversity into opportunities. There are also opportunities for businesses to work with their customers to co-create green value (Jiang et al., 2019). Research has demonstrated that the pandemic has affected consumer behavior. Many firms, therefore, have innovated in order for them to adapt to new conditions. In the everyday lives of households and companies, new technologies have notably become more important. Studies indicate that COVID-19 has adversely affected global economies and has disrupted both value chain and distribution channels.

REFERENCES

1. Ali, B. J. (2020). Impact of COVID-19 on consumer buying behavior toward online shopping in Iraq. *Journal of Economic Studies,* 18(3), 267-280
2. Baker, Scott R., Farrokhnia Robert A, Meyer Steffen, Pagel Michaela, and Yannelis Constantine. (2020). How does Household Spending Respond to an Epidemic? Consumption During the 2020 COVID-19 Pandemic. *The Review of Asset Pricing Studies, raaa009*. https://doi.org/10.1093/rapstu/raaa009
3. Baker, Scott R., Farrokhnia Robert A, Meyer Steffen, Pagel Michaela, and Yannelis Constantine. 2020. How does Household Spending Respond to an Epidemic? Consumption during the 2020 COVID-19 Pandemic. The Review of Asset Pricing Studies, raaa009. https://doi.org/10.1093/rapstu/raaa009
4. Bhatti, Anam, Akram Hamza, Hafiz Muhammad Basit, Ahmed Usman Khan, Syeda Mahwish Raza Naqvi, and Muhammad Bilal. 2020. E-commerce Trends During COVID-19 Pandemic. *International Journal of Future Generation Communication and Networking,* 13 (2), 1449– 1452.
5. Hartmann, Nathaniel, and Bruno Lussier. 2020. Managing the Sales Force through the Unexpected Exogenous COVID-19 Crisis. *Industrial Marketing Management, 88,* 101– 111.

6. Knowles, Jonathan, Richard Ettenson, Patrick Lynch, and Joseph Dollens. 2020. Growth Opportunities for Brands during the COVID-19 Crisis. *MIT Sloan Management Review,* *61* (4), 2–6.

7. Roggeveen, Anne L., and Raj Sethuraman. 2020. How the COVID Pandemic May Change the World of Retailing. *Journal of Retailing*. [Epub ahead of print] 10.1016/j.jretai.2020.04.002

8. Chandy, RK and Tellis, G.J. (1998). Organizing for radical product innovation: the overlooked role of willingness to cannibalize. *Journal of Marketing Research, 35*(4), 474-487.

9. Cortez, R.M. and Johnston, W.J. (2020). The coronavirus crisis in B2B settings: crisis uniqueness and managerial implications based on social exchange theory. *Industrial Marketing Management, 88*(1), 125-135.

10. ChinaSSPP.com (2020a). The average daily retail sales of domestic clothing brand Peacebird exceeded 8 million during COVID-19 crisis. http://www.chinasspp.com/ News/Detail/2020-2-11/446723.htm. Accessed date: April 28 2020.

11. ChinaSSPP.com (2020b). How did Peacebird achieve average daily sales of more than 8 million when half of the offline stores were closed. http://www.chinasspp.com/ News/Detail/2020- 2-29/447380.htm. Accessed date: May 10 2020.

12. Chinaz.com (2020). Suning.com launched 12 hours livestreaming plan which involving 3280 stores. https://www.chinaz.com/2020/0221/1111809.shtml. Accessed date: May 10 2020.

13. Cuba, L. (2020). What is the purpose of Sinopec that selling fresh products at gas stations? Accessed date: May 10 2020 https://www.huxiu.com/article/340189.html.

14. Cunningham, S., Craig, D., & Lv, J. (2019). China's livestreaming industry: Platforms, politics, and precarity. International Journal of Cultural Studies, 22(6), 719–736

15. Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, *117*, 284–289.

16. Donthu, N., Kumar, S., & Pattnaik, D. (2020). Forty-five years of Journal of Business Research: A bibliometric analysis. *Journal of Business Research, 109*, 1–14

17. Ding, W., R. Levine, C. Lin, and W. Xie. 2020. Corporate immunity to the COVID-19 pandemic. NBER Working Paper No. 27055. National Bureau of Economic Research, Cambridge, MA. Accessed May 25, 2020. https://www.nber.org/papers/w27055.pdf

18. Jiang, Y., Balaji, M.S. and Jha, S. (2019). Together we tango: value facilitation and customer participation in Airbnb. *International Journal of Hospitality Management, 82*, 169-180.

19. Georgieva, K. (2020). Opening remarks at a press briefing by kristalina georgieva following a conference call of the international monetary and financial committee (IMFC), available at:https://www.imf.org/en/News/Articles/2020/03/27/sp032720-opening-remarks-at-press-briefingfollowing-imfc-conference-call (accessed March 27 2020).

20. Guillen, M.F. (2020). How businesses have successfully pivoted during the pandemic. available at: https://hbr.org/2020/07/how-businesses-have-successfully-pivoted-during-the- pandemic (accessed 7 July 2020).

21. Kang, J., Diao, Z. and Zanini, M.T. (2020). Business-to-business marketing responses to COVID-19 crisis: a business process perspective. Marketing Intelligence & Planning, Vol. ahead- of-print No. ahead-of-print. https://doi.org/10.1108/MIP-05-2020-0217

22. Mariani, M. (2019). Big data and analytics in tourism and hospitality: a perspective article. *Tourism Review, 75*(1), 299-303.

23. Mariani, M.M., Baggio, R., Fuchs, M. and Höpken, W. (2018). Business intelligence and big data in hospitality and tourism: a systematic literature review. *International Journal of Contemporary Hospitality Management, 30*(12), 3514-3554.

24. Mariani, M.M. and Perez Vega, R. (2020). Beyond the hype: psychological mechanisms enabling the acceptance, adoption, and engagement with artificial intelligence technology in marketing. *Psychology and Marketing*.

25. Narayandas, D., Hebbar, V. and Li, L. (2020). Lessons from Chinese companies' response to COVID19. available at: https://hbr.org/2020/06/lessons-from-chinese-companies- response-to-COVID-19 (accessed 5 June 2020).

26. Obal, M. and Gao, T. (2020). Managing business relationships during a pandemic: conducting a relationship audit and developing a path forward. *Industrial Marketing Management, 88*(1), 247-254.

27. Pantano, E., Pizzi, G., Scarpi, D. & Dennis, C. (2020). Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. *Journal of Business Research, 116*(1), 209-213.

28. Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community. New York: Simon & Schuster.

29. Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2020). Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. Journal of Business Research, 117, 209–213.

30. Park, M., Cook, A. R., Lim, J. T., Sun, Y., & Dickens, B. L. (2020). A systematic review of COVID-19 epidemiology based on current evidence. *Journal of Clinical Medicine, 9*(4), 967–980.

31. Singh, V., Verma, S., & Chaurasia, S. S. (2020). Mapping the themes and intellectual structure of corporate university: Co-citation and cluster analyses. *Scientometrics, 122*(3), 1275–1302.

32. Kuckertz, A., L. Br€andle, A. Gaudig, S. Hinderer, C. A. Morales Reyes, A. Prochotta, K. M. Steinbrink, and E. S. C. Berger. 2020. "Startups in Times of Crisis – A Rapid Response to the COVID-19 Pandemic." Journal of Business Venturing Insights 13: e00169.

33. Sheth, J. N. (2020). Impact of COVID-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research*, 117(2020), 280-283.

34. Sheth, Jagdish N. (2020a). *The Howard-Sheth Theory of Buyer Behavior.* New Delhi, India: Wiley & Sons.

35. Sheth, J. N. (2020b). Next Frontiers of Research in Data Driven Marketing: Will Techniques Keep Up With Data Tsunami? *Journal of Business Research* in press.

36. Qin, M., Y. C. Zhang, and C. W. Su. 2020. The essential role of pandemics: a fresh insight into the oil market. *Energy RESEARCH LETTERS 1*(1):13166. doi:10.46557/001c.13166.

37. Qiu, Y., X. Chen, and W. Shi. 2020. Impacts of social and economic factors on the transmission of coronavirus disease 2019 (COVID-19) in China. *Journal of Population Economics* 1– 46. doi:10.1007/s00148-020-00778-2.

38. Reinhart, C. M. 2020. This time truly is different. Accessed May 25, 2020. https://www.projectsyndicate.org/commentary/covid19-crisis-has-no-economicprecedent- by-carmen-reinhart -2020-03.

39. Ritter, T. and Pedersen, C.L. (2020). Analyzing the impact of the coronavirus crisis on business models. *Industrial Marketing Management, 88*(1), 214-224.

40. Shaswar, A. 2020, May 25. Personal interview

41. Wang, Y., Hong, A., Li, X. and Gao, J. (2020). Marketing innovations during a global crisis: a study of China firms' response to COVID-19. *Journal of Business Research, 116*(1), 214- 220

42. WHO (2020a), "Q&a on coronaviruses (COVID-19)", available at: www.who.int/news-room/q- a-detail/qa-coronaviruses.

43. WHO (2020b). The COVID-19 risk communication package for healthcare facilities.

44. Zhou, H. (2020). Will this bring hope to domestic clothing brands that the average daily retail sales of domestic clothing brand Peacebird exceeded 8 million during COVID19 crisis? Accessed date: May 10 2020 https://www.sohu.com/a/372116735_ 100191058.

THE HEALTHCARE MANAGEMENT OF POST-COVID DISEASE RECOVERY COMPLICATIONS: A PATIENT-CENTRIC APPROACH STUDY

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ABSTRACT

The COVID-19 illness, as a global pandemic is an emerging and rapidly evolving situation that has collapsed the health departments of the world. It has also shattered the economy of the different nations in the world. Body immunity is the key factor highlighted in many types of research to prevent COVID-19 disease. People with co-morbidities like diabetes, hypertension, cardiovascular disease, and respiratory issues are at higher risk of having COVID-19. The studies have revealed that people with pre-existing conditions face a higher mortality rate as compared to people affected with no co-morbidities. It also depends on age as the general immunity reduces as you get older. This study talks about the co-morbidity impact on COVID-19, co-morbidity chronic problems, and their treatment for proper healthcare management. It also explores the Post- COVID-19 symptoms and the health management implications involved in long -term effects. The measures to improve the public health and recovery of patients post Covid-19 illness has great significance and important implications for society in terms of livelihood and work productivity.

INTRODUCTION

The global COVID-19 pandemic emerged and rapidly evolved collapsing the health departments. It has also shattered the economy of the different nations of the world. Many Governments have imposed lockdowns to prevent the spread of the virus. Various Government advisory was also issued to follow social distancing, wear masks, and washing hands continuously/ sanitizing. Body immunity is the key factor highlighted in many types of research to prevent COVID-19 disease (Peng, 2020).

However, the symptoms may range from mild to severe depending upon the degree of severity. At the primary level, the virus spreads through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it is important to wear a mask and follow respiratory etiquettes listed in the Government advisory. (WHO,2020)

Since COVID-19 is a new disease and we have very bounded data & information about its impact, two groups were considered to be highly susceptible to the virus; older people (more than 60 years), and people with underlying co-morbidities such as cardiovascular disease, diabetes, hypertension, respiratory illness, etc. (WHO,2020)

It is also observed that many older drugs for different symptoms have been re-purposed after control trials in different countries and prescribed for observed limited anti-viral effects to control the COVID-19 infections; pharmaceutical companies were quick to turn around and supply the sudden demand. The pharmaceutical companies widely promoted the vitamins and minerals as physicians prescribed it, based on observational studies in different parts of the world. (Healthline,2020)

LITERATURE REVIEW

1) Co-Morbidity Chronic Problems

The COVID-19 virus has almost infected all age groups. However, the impact also depends upon an individual's body immunity; general immunity reduces as you get older. The studies have revealed that people with pre-existing conditions face a higher mortality rate than people affected with no co-morbidities. Since COVID-19 is a new disease, we have very bounded data & information about its impact on underlying medical conditions (CDC, 2021)

The two groups are more susceptible to the virus; older people (more than 60 years), and people with Co-morbidities such as cardiovascular disease, diabetes, hypertension, respiratory illness, etc. In the guidelines published by WHO, the risk of this virus increases with age starting from 40 years (WHO, 2020)

As time evolved, HERD IMMUNITY is the new concept that came into play. Herd immunity is a condition obtained when most of a population becomes immune to an infectious disease, thus preventing the spread of the disease. The scientists believe that herd immunity is the best way

to control the spread of the virus that can be achieved in two possible ways – the vaccination of most of the population to achieve immunity or many people acquire the disease and build an immune response. This is known as Natural Immunity (Health Narayana, 2020)

2) Co morbidity and Its Effect on The Patients with COVID-19

The studies have revealed that people with pre-existing conditions face a higher mortality rate than people affected with no co-morbidities. They have often been associated with increased hospital complications. In one of the studies, it was found that 48% of the patients who passed away after the treatment had underlying CO-morbidities. (Health Narayana, 2020)

Hypertension

People suffering from hypertension need to take special care of them as hypertension reduces the body immunity & makes the body more prone to the virus. In the case of hypertension patients, the receptors in the body namely ACE2 are down regulated; the interaction of these receptors with coronavirus infection through its protein called spike-protein further brings down the level of these receptors (Health Narayana, 2020)

Diabetes

People with an uncontrolled level of sugar and Type 2 Diabetes are more prone to the virus. Poor glycemic levels cause a deleterious impact on the body's capability to fight against the virus and even cause subordinate bacterial infections in the lung & abdomen. In the case of diabetes, the body's ability to dispose of toxins from the blood is damaged, which further leads to severe conditions such as obesity, ischemic heart disease, etc. (Health Narayana, 2020)

Cardiovascular Diseases

Pre-existing cardiovascular co-morbidity patients have shown notable myocardial damage and raised cases of cardiovascular collapse in context with inflammation in heart muscles. The patients with coronary heart disease are feasible to witness supply-demand mismatch of oxygen to cardiac musculature with further aggravated the scenario and leads to severe cardiomyopathy & poor outcome. (Health Narayana, 2020).

3) Re-Purposed Drugs

It has also been observed that many older drugs for different symptoms have been re-purposed after control trials in different countries and prescribed for observed limited anti-viral effects to control the Covid infections; pharmaceutical companies were quick to turn around and met the sudden demand. There has also been a great deal of promotion of vitamins and minerals by these companies as physicians prescribed it, based on observational studies in a different part of the world (Health line, 2020).

Many drugs such as Hydrochloroloquine, Dexamethasone, Remdesivir, and Azithromycin were used in treating COVID-19. However, UK's Drug Safety Research Unit had issued a review on the challenges & benefits of Re-purposed drugs for COVID-19. The review winds up that re-purposed drugs still need to undergo attentive testing to be safe and effective. According to the review among re-purposed drugs, only Remdesivir, an antiviral that originated for Ebola

Virus was licensed to be used in the treatment of COVID-19 (European Pharmaceutical Review, 2020)

4) Post-COVID-19 Disease recovery complications

Post recovery, depending upon the severity of the disease, the patients may continue to face a range of health issues. The most reported post-recovery symptoms of COVID-19 are- irregular heartbeat, severe muscle pain, fatigue, shortness of breath, chest pain, continued loss of taste & smell, and in severe cases, lung damage, kidney damage, and even multiple organs damage. (Easy Pharm, 2020).

The people who continue to experience symptoms even after initial recovery from COVID-19 are referred to as "Long Haulers," & the condition is termed as POST-COVID-19 Syndrome (Clinic Mayo, 2020).

As many as 87.4% patients continued to experience symptoms even after two months of being discharged from the hospital, says *Journal of American Medical Association* report published in February 2021. Such people are being divided into two groups:

a) The people who continue to experience dry cough & body ache, from which they will eventually recover.
b) The patient who had severe pneumonia & experience total scarring of the lung after they recover; this issue is a matter of critical health concern (Dey, 2020).

Blood clots and Blood vessel problems are other post-covid disease recovery complications. A new research scientist revealed that COVID-virus stimulates the production of antibodies circulating through the blood, causing clots in people hospitalized with the disease. These antibodies trigger clots in arteries, veins, and microscopic vessels. Life-threatening events such as strokes are caused by blood clots (Malcom, 2020).

OBJECTIVES OF THE STUDY

1. To study post-COVID-19 recovery complications
2. To study the impact of each co-morbidity problem on COVID-19 illness.
3. To study Re-purposed drugs.

SCOPE OF THE STUDY

- The study covers a survey with a structured questionnaire from COVID-19 Patients around different regions.
- The study will help to understand POST-COVID-19 Disease recovery complications.
- The study will also help understand the impact of each co-morbidity problem on COVID-19 and the Re-purposed drugs used in the treatment of COVID-19.

RESEARCH METHODOLOGY

- **Research Design:** It is informative and explanatory. Both qualitative and quantitative approaches are adopted.
- **Questionnaire Design:** The questionnaire consists of different sections of questions related to variables under study and variables mapped to objectives to obtain what we are trying to find out from the respondents. The questions are weighted in percentages marked by COVID-19 patients for each question as per their perception.
- **Sources of Data:** The researcher collected the data by getting a questionnaire filled up by COVID-19 Patients over online media and through emails, which helped in quantitative analysis. The telephonic interview assisted in having a profound qualitative insight into COVID-19 patients. The researcher has also referred to various articles, Case studies, journals, and brochures on websites.
- **Sample Design:** The method of convenience and snowball sampling method was chosen through each person's referral for another COVID-19 patient he/ she knew. For analysis, a sample of around 100 patients was selected; out of them, the data from 75 patients were complete. The patients were approached based on their availability, and patients were appealed to respond. We cannot force them to respond.

ANALYSIS & DISCUSSION

A plot of around 75 COVID-19 Patients was done, which helped to clarify the variables under the main study. The descriptive method of result analysis was adopted. The Google forms were used for online data collection, and the spreedsheets were used to derive pie charts for analysis & interpretations. The average was calculated based on percentage response**.**

Figure 1: Gender
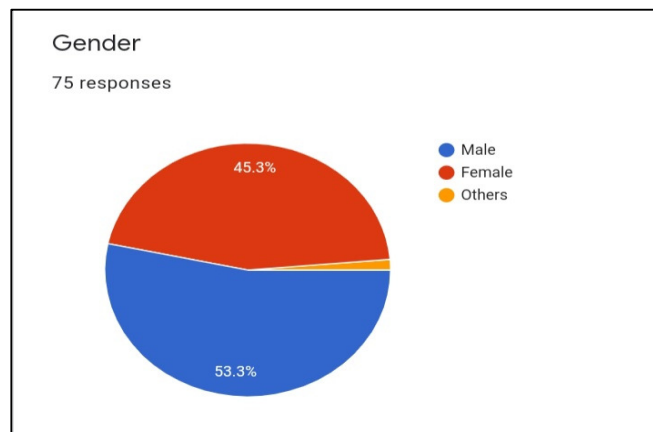
Source: Author compilation

During the survey, it was found that 53.3% of respondents were male, and 45.3% were female

Figure 2: Age
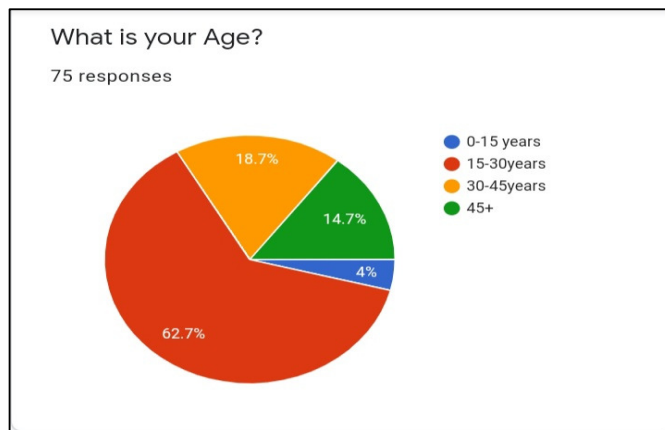
Source: Author compilation

During the survey, it was found that the majority of the respondent (62.7%) were 15-30 years, whereas 18.7% were 30-45 years followed by (14.7%) 45+ and (4%) 0-15years.

Figure 3: Symptoms Experienced
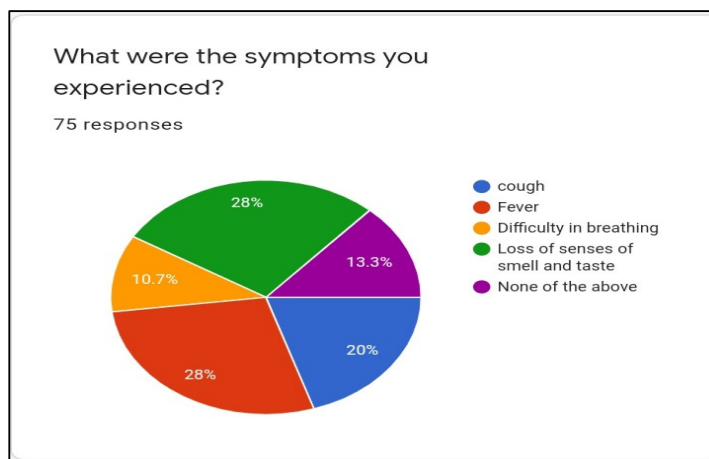
Source: Author compilation

COVID-19 affects different people differently, however, the common symptoms are cough, fever, difficulty in breathing, loss of senses of taste and smell, and others. The survey observed that 28% of people experienced a loss of taste and smell. The same proportion of people experienced fever, like a fever followed by cough (20%), difficulty in breathing (10.7%). However, 13.3% of patients were asymptomatic.

Figure 4: Lifestyle changes post-COVID-19
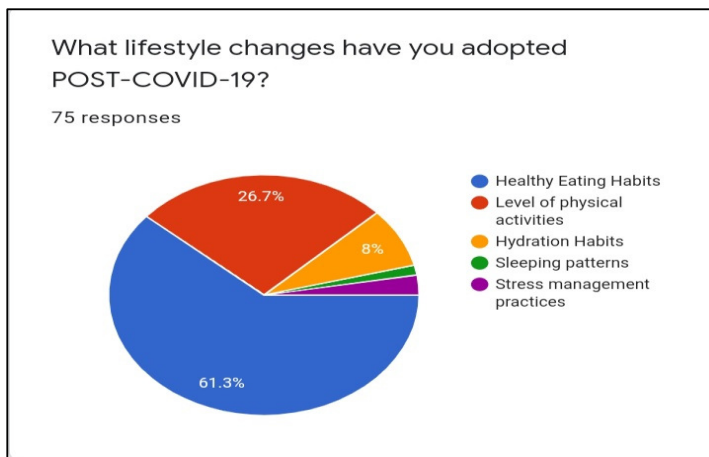
Source: Author compilation

Immunity is the key factor highlighted in many types of researches to fight COVID-19. However, immunity also depends upon age; general immunity reduces as we get older. During the survey, it was found people have adopted lifestyle changes after recovery from COVID-19. 61.3% of patients have adopted healthy eating habits, followed by 26.7% adoption of higher physical activities.

Figure 5: Post-COVID-19 disease recovery complications
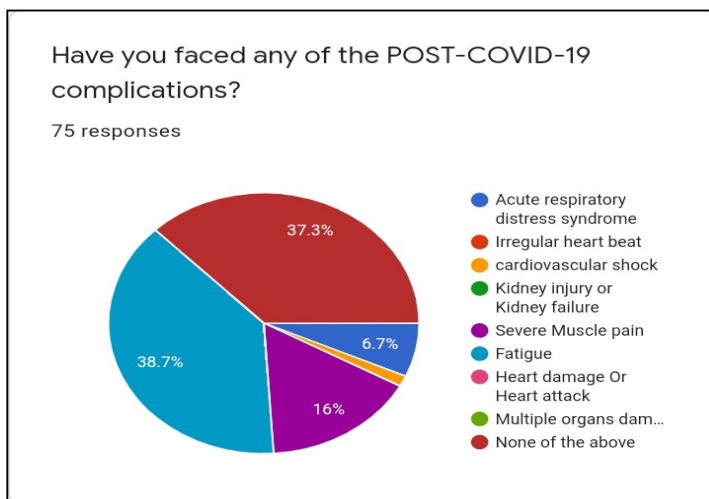
Source: Author compilation

38.7% of patients experienced fatigue as a post-COVID-19 complication symptom. 37.3 % of patients did not face any complications, 16% experienced severe muscle pain. However, 6.7% of COVID-19 patients came across acute respiratory distress as a post-COVID-19 complication.

Figure 6: Underlying co-morbidity
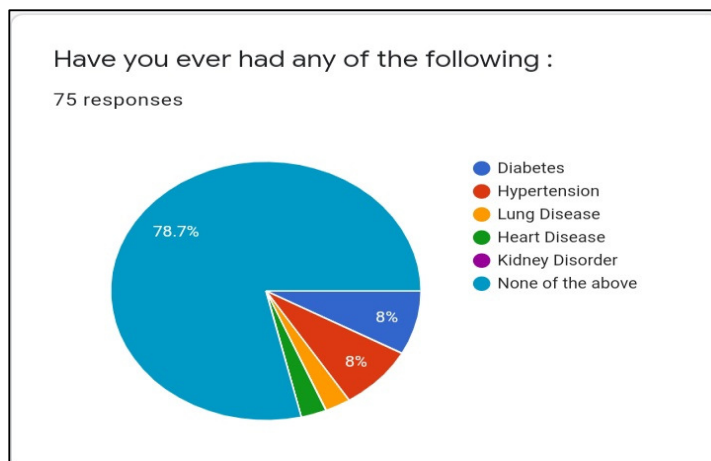
Source: Author compilation

The survey finds that 78.8% of COVID-19 patients did not have any underlying co-morbidity; it could be because most of the respondents were between 15-30 years of age. 8% had diabetes, and 8 % had Hypertension as an underlying co-morbidity which could be genetic in some cases while a lifestyle disorder in others.

Figure 7: Re-purposed drugs
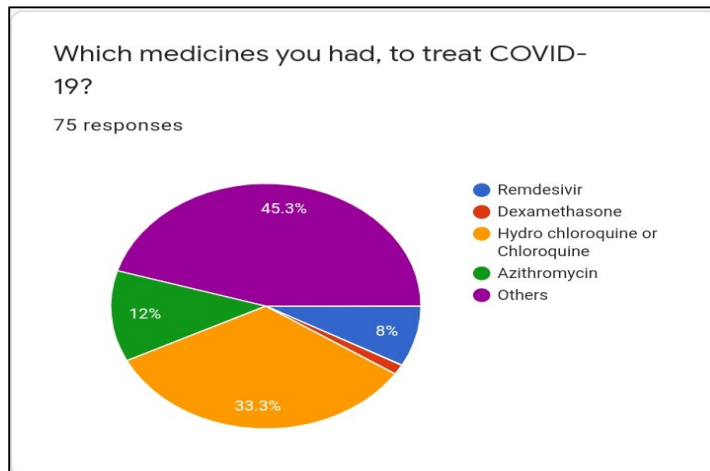
Source: Author compilation

During the survey, it was observed that the majority of COVID-19 patients (45.3%), did not know about the drug used in treatment because the people didn't have much knowledge about the drug. 33.3 % were treated with Hydrochloroquine or Chloroquine, 12% were treated with Azithromycin, remaining 8% were treated using Remdesivir, an antiviral originated for the Ebola virus.

CONCLUSIONS

Thus, we summarize and conclude, corresponding to each of the objectives:

1.   The COVID-19 patients have a persistent effect even after the recovery; there is restricted evidence regarding long-lasting COVID-19 symptoms after the infection is gone. However, there have been reports of individuals still encountering symptoms months after infection, including continued loss of taste or smell, irregular heartbeats, chest pain, shortness of breath, extreme fatigue, and recurring fever. In a survey majority of patients came across fatigue as a main post-COVID-19 disease complication.

2.   The existence of co-morbidities in patients with COVID-19 infection has often been associated with increased in-hospital complications and mortality. COVID-19 has a deleterious impact on patients with co-morbidities. Our study found that 16% of patients had underlying co-morbidity, which led to increased hospital complications. To cope with an impact, the patients have adopted healthy eating habits and increased physical activities to keep them healthy.

3.   Developing new drugs is a costly & time-consuming process that can take extreme investment and several years to complete. To cope up with COVID-19 many older drugs were re-purposed after the control trials in different countries & prescribed for observed anti-viral effects. In our study, we found that Hydrochloroquine was widely used, followed by Azithromycin & Remdesivir.

LIMITATIONS

1. Not all respondents responded so the study cannot give 100% accurate results.
2. Some of the patients were reluctant to have communication so that the response could be a bit biased.
3. The sample size could have been larger.

REFERENCES

1. Peng Minhua, 1 September 2020, An outbreak of COVID-19: An Emerging global pandemic threat, accessed at the website https://www.sciencedirect.com/science/article/pii/S0753332220306922, on 5 January 2021.
2. WHO, 11 December 2020, Coronavirus, accessed at the website https://www.who.int/health-topics/coronavirus#tab=tab_1, on 7 January 2021.
3. CDC, 22 February 2021, People with certain medical conditions, accessed at the website https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html, on 15 January 2021.
4. Health Narayana, 19 June 2020, what are co-morbidities: How do they impact coronavirus? , accessed at the website https://www.narayanahealth.org/blog/how-comorbidities-impact-coronavirus/, on 19 January 2021.
5. Health line, 18 February 2021, Current treatments for COVID-19, accessed at the website https://www.healthline.com/health/coronavirus-treatment, on 25 January 2021.
6. European Pharmaceutical Review, 18 November 2020, Drug safety research unit says repurposed drugs for COVID-19 still requires a lot of testing, accessed at the website https://www.europeanpharmaceuticalreview.com/news/133832/drug-safety-research-unit-says-repurposed-drugs-for-covid-19-still-require-a-lot-of-testing/, on 27 January 2021.
7. Easy Pharm, 1 August 2020, Long term complications of COVID-19!, accessed at the website https://pharmeasy.in/blog/long-term-complications-of-covid-19/, on 30 January 2021.
8. Clinic Mayo, 17 November 2020, COVID-19(Coronavirus): Long term effects, accessed at the website https://www.mayoclinic.org/coronavirus-long-term-effects/art-20490351#:~:text=Imaging%20tests%20taken%20months%20after,Lungs., on 31 January 2020.
9. Dey Sushmi, 14 July 2020, COVID-19: Complications even after recovery, accessed at the website https://timesofindia.indiatimes.com/india/covid-19-complications-even-after-recovery/articleshow/76954261.cms, on 2 February 2021.
10. Malcom Kelly, 5 August 2020, Recovery after severe COVID infection poses unique challenges, accessed at the website https://labblog.uofmhealth.org/rounds/recovery-after-severe-covid-infection-poses-unique-challenges, on 5 February 2020.

CHALLENGES AND OPPORTUNITIES OF DRUG REPURPOSING: A COST-EFFECTIVE STRATEGY FOR PRODUCT DEVELOPMENT AND NEW MARKET DEMAND

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ABSTRACT

The drug repurposing is essentially a re-positioning of the drug for a different disease or medical condition from already created and licensed to treat another set of indications/ symptoms of the original disease or medical condition. The various existing antiviral previously developed for the treatment of severe acute respiratory syndrome, malaria, HIV/AIDS has been identified as possible therapies for COVID-19. The main objectives of the study are to (a) explore the market demand of re-purposed drugs during COVID-19; (b) Analyzing the conventional drug production method to drug repurposing, evaluate the possible cost savings; (c) understand the emergency approval process during Covid-19; (d) explore how the pharmaceutical companies develop their new market with the repurposed drugs and (e) explore how the repurposing of drugs play a key role in the prolonged product life cycle of a drug. A descriptive study was performed. As of date the total volume of sales by different pharmaceutical firms and the corresponding total market value of the drugs used in COVID-19 including Remdesivir and other drugs stand at approximately Rs 2000-2500 crores. Of the 28 drugs approved by the USFDA (including both novel and repurposed) in the first quarter of 2020, 12 drugs were repurposed. The product development of repurposed drugs can be more rapid and cost-effective than the traditional discovery and development of drugs. The pharmaceutical companies have been active in developing their new markets with fresh target customers/ physicians where they can use the original brand equity with different indications to sell it.

INTRODUCTION

Drug repurposing (DR) is also known as drug redirection, drug recycling, drug reprofiling, and therapeutic shift. It is a method of discriminating between FDA-approved/pro-drugs/failed/old/investigational/already marketed/existing for new pharmacological indications (Rudrapal M. et al., 2020). Outbreaks of emerging new infections such as coronavirus disease 2019 (COVID-19) have specific challenges for health practitioners to select suitable therapeutic/pharmacological therapies in the clinical setting with very little time available to develop new drugs. It is cost-effective to study the current antiviral and other drugs against SARS-CoV2 because of the time and cost needed to develop new therapies (Singh T.U. et al., 2020). The reuse of widely prescribed medications to avoid SARS-CoV-2 infection or COVID-19-associated respiratory symptoms can accelerate the development of a viable therapeutic alternative and quickly boost the current global crisis. Over 360 ongoing clinical trials are testing the effectiveness of various compounds against COVID-19(Duarte R.R et al., 2020). The Food and Drug Administration (FDA) of the United States continues to play a key role in the government's multifaceted response to the COVID-19 pandemic. It involves promoting medical countermeasures for the treatment and prevention of the epidemic, tracking possible shortages or disturbances of medical goods and food supply chains, and helping to minimize such impacts as necessary (FDA news release., 2020). Recently, the repurposing of available drugs for the treatment of many disease conditions has become increasingly common; it uses de-risked compounds with recognized preclinical, pharmacokinetic, pharmacodynamic profiles that can reach phase III or IV clinical trials directly, making the drug development process potentially low-cost and relatively rapid. Therefore, the World Health Organization (WHO) and other health organizations have opted to solve emerging health issues by reassessing the effectiveness of approved and experimental drugs (Singh T.U et al., 2020). WHO has identified several treatments that are most promising and approved for emergency usages, such as a combination of two HIV drugs (lopinavir and ritonavir), anti-malarial drugs (chloroquine and hydroxychloroquine), and an experimental antiviral compound Remdesivir. It was necessary due to the absence of effective medications against SARS-CoV2 as well as public health emergencies (Singh T.U et al., 2020).

OBJECTIVES

The main objectives of the study are:

1. To explore the market demand of re-purposed drugs during COVID-19;
2. To analyze the conventional drug production method to drug repurposing and evaluate the possible cost savings;
3. To understand the emergency approval process during COVID -19;
4. To explore how the pharmaceutical companies develop their new market with the repurposed drugs
5. To explore how the repurposing of drugs plays a key role in a drug's prolonged product life cycle.

LITERATURE REVIEW

At present, there are no prophylactic or preventive treatment options for COVID-19 approved by the Food and Drug Administration (FDA). This puts immense pressure on the FDA to rapidly create new therapies (Cassidy Christine et al., 2020). The typical drug production method takes place in stages: discovery and growth, preclinical testing, clinical trials; the FDA will perform a review and post-marketing monitoring. (Sullivan, T., 2020). One of the best ways to find safe and efficient treatment choices is by repurposing an already FDA-approved therapeutic. In the battle against COVID-19, therapeutic repurposing has been used (Gao J et al., 2020).

METHODOLOGY

The data is compiled from secondary sources, including published research articles, review articles, research indices like Google Scholar, Pubmed, and Wikipedia. The other data sources were from the US FDA official website, CSIR India, British Pharmacological Society, WIPO, News press releases, and surveys conducted from various market research agencies. A descriptive study is performed.

ANALYSIS AND DISCUSSION

A) Market Demand of Repurposed Drugs during COVID-19

CSIR listed the top 25 drug/drug candidates that can be effective in the treatment of COVID-19. This is an elaborate list, where many ongoing clinical trials are likely to affect the outcome results in changing the global therapeutic environment. There is a significant potential for many drugs to be licensed, which are not commercially available in India. The Council of Scientific Industrial Research (CSIR) has prioritized those drugs for developing through optimal synthetic processes. Developing the synthetic method for these top drug/drug candidates would increase the probability of an industry introducing drugs in India until favorable results are achieved in the outcomes of clinical trials. In addition to the top 25 medications mentioned above, other FDA-approved medications for repurposing for COVID-19 are being explored by CSIR labs (CSIR., 2020).

The epidemic began in Wuhan, China, and has spread worldwide, infecting nearly 109 million people with more than 2.41 Million cumulative deaths by February 14, 2021, according to WHO's global case dashboard COVID-19. In collaboration with some pharmaceutical companies such as Mylan, LAXAI, etc., CSIR has prioritized many other repurposed drugs that target the virus or the host pathways and is conducting many of these trials (CSIR., 2020).

On January 30, 2020, World Health Organization (WHO) declared COVID-19 as PHEIC (Public Health Emergency of International Concern) and pandemic on March 11, 2020 (NIH: National Institute of Allergy and Infectious Diseases., 2020). There is also an urgent need to tackle this highly infectious disease, which needs a thorough understanding of the disease's pathology and essential techniques for new drug detection. The other alternative treatments, such as the antiviral activity of natural killer cells and mesenchymal stem cells, immunotherapy, and Chinese traditional medicine, may be studied in addition to currently approved antiviral therapies. Many new therapeutic methods are emerging in these desperate situations, and more clinical trials are needed to ensure the safety and effectiveness of the new drugs (Parvathaneni. V et al., 2020). As the traditional method of the drug, production is tedious and costly, the repurposing of existing COVID-19 drug molecules has become an elegant technique for the rapid development of successful therapies, as evident from wide-ranging knowledge on the effectiveness of antimalarial drugs, chloroquine, and hydroxychloroquine(Senanayake S.L. et al., 2020; Fan H.-H.et al.,2020; Chary M.A. et al.,2020). The most important benefit of repurposing drugs for COVID-19 treatments is the speed of availability for patients. The hospitals are overwhelmed with patients who have contracted the virus, for which there are no reliable therapies. The shortened timeline for development associated with repurposing the drugs could significantly speed up healthcare delivery to affected patients (Phelps.K. et al., 2020).

The repurposing and repositioning of medications provide market benefits. The worldwide medication repurposing market was worth almost $24.4 billion in 2015 and is projected to hit $31.3 billion by 2020, mirroring a 5.1 percent build yearly development rate (CAGR) over the course of the following five years. The United States dominated the business; it created $13.7 billion out of 2015 and is projected to reach almost $17.9 billion by 2020, mirroring a 5.4 percent CAGR throughout the following five years. With a CAGR of 4.7 percent, the non-US market is expected to grow to almost $13.4 billion by 2020, up from $ 10.6 billion out of 2015 (Arnum. P.V., 2016).

B) Analyzing the conventional drug production method to drug repurposing, evaluate the possible cost savings.

Both in terms of the financial investment necessary and the time is taken in expediting a drug in production to approval. The drug development process can be extremely expensive. The companies face a long period of drug development and clinical phase trials including, initial testing, drug synthesis, toxicity and effectiveness, API preparation, and formulation trials, before the clinical trial process for setting a path for creating a new drug. The early stages of the process of drug production can also be the most financially expensive, with firms committing hundreds of millions of dollars to a drug without ensuring it will make it to the market. Many upcoming pharmaceutical firms are working to repurpose or reposition existing drugs to shorten the road to production to cut down the drug development period and exploit

past companies' research and development work (Vanstone.K. et al.,2020). Therefore, drug repurposing with shorter timelines for production and streamlined studies contributes to substantial cost savings for the sponsor. With so many unanswered questions about effectiveness, moving quickly to the clinic carries tremendous risk, and the scale of production required for therapies with COVID-19 is enormous. Having a cost-optimized strategy for a well-understood active ingredient may allow a program to progress to approval or authorization, especially in uncertain funding and setting (Phelps.K. et al., 2020). Drug development and the transformation of scientific discoveries into new treatments enable biopharmaceutical companies to make considerable investments and resources. Many analyses in clinical fields show that it takes about 12 years and sometimes even longer to produce a new drug, from target selection to marketing authorization (Firgens.M. et al.,2020). The number of new drugs produced per billion dollars invested in R&D has experienced an exponential decrease over the past six decades. Consequentially, the total cost of selling a drug has risen from a few hundred million dollars in the 1990s to more than two billion dollars today. Today, less than a dollar of value is returned for each dollar invested by the pharmaceutical industry on R&D, indicating that potential R&D spending by businesses will decrease (National Academies Press (US)., 2020). The high failure rate of drug candidates in all phases of development is one cause of the declining return on investment. A clear response would be to "fail earlier" drugs in the development process to minimize the time and resources spent determining that a drug will not be successful; nevertheless, behavioral disincentives often interfere (e.g., market forces, job security, optimism about data on drug development) (National Academies Press (US)., 2020).

Figure 1: Comparison between traditional development methods (i.e., for new drugs and generics) and the strategy of repurposing development (Firgens.M. et al.,2020)
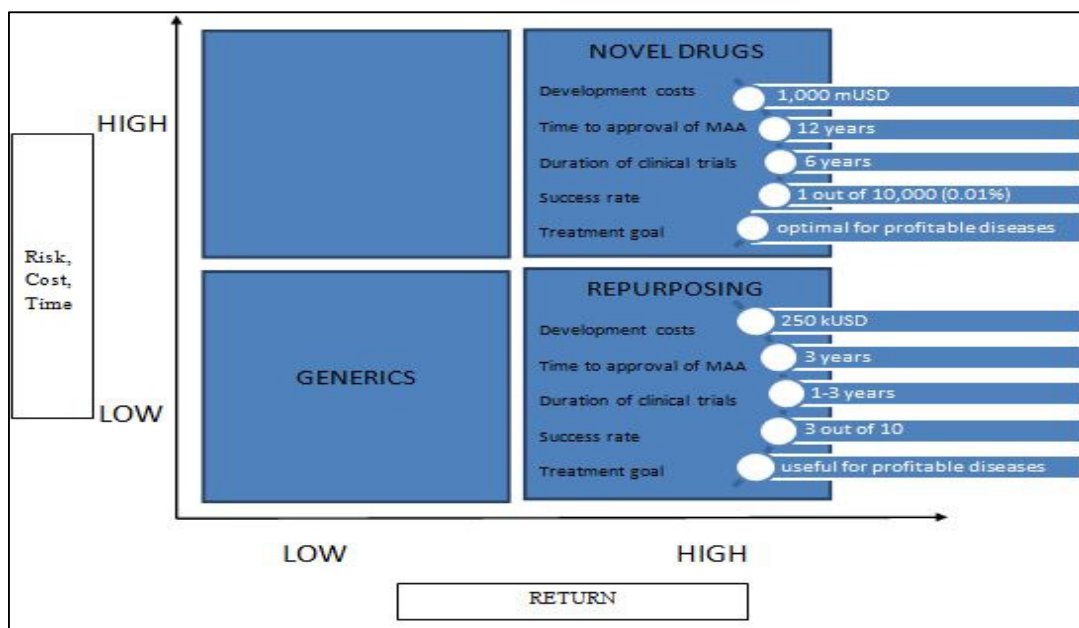
Source: Adapted from Firgens Michael 2018: Drug Repurposing – A Smart Development Strategy to Make Drug Development Cheaper, Faster, Safer And More Successful, 25th December 2020

Figure 2: Comparison of the method of drug development for (a) new and (b) repurposed drugs (Ashburn 2004)
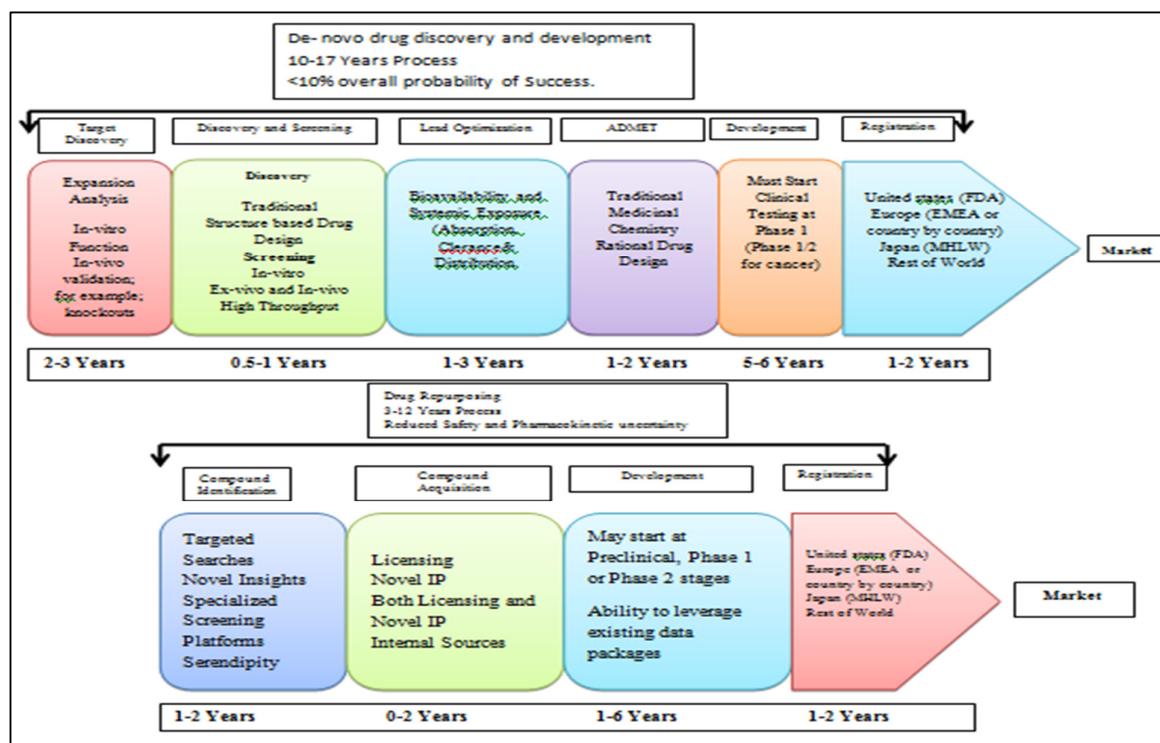
Source: Adapted from Ashburn. T.T, & Thor, K. B. 2004: Drug repositioning: identifying and developing new uses for existing drugs. Nature Reviews Drug Discovery, 3(8), 673–683, 18th January 2021

C) Emergency Approval process during COVID-19

Under Federal Food, Drug, and Cosmetic Act, EUA(Emergency Use Authorization) was created for the Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 (USFDA., 2020). The FDA will give a EUA for "an unapproved Medication or an unapproved utilization of an affirmed clinical product" if the Secretary of Health and Human Services pronounces an emergency (Stroud et al., 2010). In a crisis, the EUA permits the FDA to permit the utilization of an investigational drug that shows guarantee, but needs adequate clinical preliminary proof for FDA endorsement due to time limitations (Cassidy et al.,2020). The FDA has historically given EUAs during previous epidemics/pandemics, such as Zika virus (2016), Enterovirus D68 (2015), Ebola virus (2014), Coronavirus (2013), H7N9 Influenza (2013), and, for the latest COVID-19 pandemic. The scientists have used existing SARS-CoV-2 replication data and cellular entry pathways to develop therapeutics and medications for COVID-19. One of the best ways to find safe and efficient treatment choices is by repurposing an already FDA-approved therapeutic. In the battle against COVID-19, therapeutic repurposing has been used (Gao.J. et al.,2020). The use of investigational drugs that have demonstrated preclinical effectiveness and protection for related illnesses is another path to drug production. The Remdesivir is a transitional medicine that has shown promise for the treatment of a disease (Amirian ES.,2020).

D) Pharmaceutical companies develop their new market with the repurposed drugs and how the repurposing of drugs play a key role in the prolonged product life cycle of a drug.

At any point in a product's discovery, growth, and life-cycle management, and the method of choosing a disease indication should be evaluated. Even if an initial indication of the disease is selected, there may be relatively little information about the mechanism or target. There could be several chances to re-evaluate indications during drug production. Besides, safety issues in more severe conditions, when adequate care is not available, lead to negative outcomes in patients. The value of financial rewards for corporations is that the number of patients compounded by the price of medication must exceed a certain minimum amount for a corporation to invest in the drug to make financial sense (although companies may provide drugs for philanthropic reasons). The company must also take into consideration how long the drug will be under patent protection. If a drug patent has expired or is close to expiring, the total profits available from that drug would be significantly smaller than for a drug with a significant patent life. The federal government promotes drug production for orphan diseases, but some diseases are still more likely to draw interest than others. Naturally, an illness affecting 199,000 patients is a more attractive target for the pharmaceutical companies than an illness of only 100 patients. While government incentives matter to businesses, they do not make an unattractive business opportunity sufficiently enticing to pursue. It is also time-consuming and expensive to move technology, and biotechnology company partners may lack sufficient financial resources to invest in the compound to see its production through effectively. There is a belief that the chances are slim that any given drug would result in a viable product line(National Academies Press (US); 2014).

Examples of Repurposed Drugs for the treatment against COVID-19

Figure 3: A list of drugs that could be repurposed for COVID-19. The drugs being considered for COVID primary therapy to operate on either the virus's or the host's targets.(Thakur. U.S. et al., 2020)

Source: Adapted from Singh Thakur Uttam, Parida Subhashree, Lingaraju Madhu Cholenahalli, KesavanManickam, Kumar Dinesh, Singh Raj Kumar 2020: Drug repurposing approach to fight COVID-19, January 8, 2021

Remdesivir: Remdesivir illustrates a transitional treatment recently tried as an anti- viral; however, it is not yet endorsed by the FDA. The drug showed prophylactic and therapeutic efficacy against MERS and SARS Coronaviruses in Rhesus macaques, indicating its potential against various coronaviruses such as SARS-CoV2. In a study performed at 13 sub sites and 60 sites in various parts of the world, the mortality rate was 11.9% with placebo (521 in the group) and 7.1% with Remdesivir (538 in the group) at 14 days in a total of 1,059 patients, respectively(Beigel J.H. et al.,2020). Another research, however, indicates differently that Remdesivir may not have such statistically significant clinical benefits while speaking in terms of count, patients are given Remdesivir showed a faster clinical improvement. Another clinical trial of Remdesivir in extreme COVID-19 patients without mechanical ventilation support showed no substantial difference between the 5-day and 10-day course of Remdesivir therapy (Goldman. J.D. et al., 2020).

Chloroquine and Hydroxychloroquine: Chloroquine, known mostly for its anti-plasmodium activities, also has antiviral efficacy. Originally derived from the Cinchona plant, this drug is now mainly a synthetic drug discovered by Bayer Laboratories (4-amino quinoline). The active inhibitors of most coronaviruses are chloroquine and its analogues (Devaux C.A. et.al., 2020). It is hypothesized that to prevent SARS-CoV2 infection, hydroxychloroquine could achieve concentration in the above tissues with a safe dose. The WHO recently stopped the Solidarity Study arm of hydroxychloroquine from finding an appropriate cure for COVID-19. These findings found that hydroxychloroquine did not contribute to a decrease in the mortality of COVID-19 hospitalized patients relative to standard treatment (briefed on 17 June 2020 by WHO; Thakur. U.S. et al., 2020; Yusuf. I.H. et al., 2017). Besides, the use of chloroquine and hydroxychloroquine may be required both in the prophylaxis technique and in patients with a higher number of clinical trials with COVID-19. Hydroxychloroquine was the first pandemic drug released by the FDA to the EUA. The EUA offered access to potentially promising medication for COVID-19 patients in the absence of any FDA-approved treatment options. Therefore, EUA made hydroxychloroquine widely available to COVID-19 patients, which in turn made it possible to obtain substantial data, perform clinical studies and interpret data on hydroxychloroquine in COVID-19 humans. This helped doctors, scientists, and the FDA draw early conclusions regarding successful vs. unsuccessful COVID-19 therapies. (Cassidy.C. et al., 2020).

Dexamethasone: Dexamethasone is a corticosteroid, and several clinical trials have used it. However, few questions have arisen about the outcome of the recovery trial in selecting the dosage and the right steroid. Furthermore, in the recovery study, the effect of dexamethasone in geriatric patients and the effects on viral load are not reported. (Johnson R.M. et al., 2020). Using this drug can lead to decreased viral clearance and nosocomial (secondary) infections in the recovery process. It can suppress immunity and aggravate such latent infections, the frequency of which is of little concern to developed countries. Therefore, before implementing COVID-19 therapy, region-specific study is required (Brotherton.H. et.al., 2020; Theoharides .T.C. et.al., 2020;Thakur .U.S. et.al., 2020).

Azithromycin: Azithromycin, a broad-spectrum antibiotic that has anti-inflammatory effects, has been tested in fewer trials. Azithromycin is widely used for bacterial respiratory infections and can potentially treat or prevent SARS-CoV-2 co-infection. Azithromycin may have antiviral activity against some RNA viruses as well. In addition to SARS-CoV-2, azithromycin is

in vitro effective against viruses such as Zika and rhinovirus; it also has antiviral effects on bronchial epithelial cells. Azithromycin is readily available and has an outstanding safety profile, so it could be easily scaled up as a first-line treatment for patients with COVID-19 if shown to be successful. The results of trials suggest that azithromycin might not provide benefit to patients once the disease has progressed and patients require hospitalization. Since azithromycin is currently the most commonly prescribed outpatient therapy for COVID-19, establishing whether azithromycin is helpful earlier in the disease course is an important research priority. If azithromycin does not play a role in COVID-19 therapy, avoiding its use will minimize the excessive intake of antibiotics (Oldenburg . C.E et al., 2020).

CONCLUSION

COVID-19 is a pandemic, which has no cure to date, including vaccines and medications. However, there is a range of FDA-approved medications available to treat other diseases that may be used based on the COVID-19 trial and are called repurposed drugs. Instead of the expensive and time-consuming traditional drug discovery route, which has a higher failure rate, drug repurposing is becoming a promising option for drug production. Drug repurposing allows the discovery in shorter timeframes for new applications of old medications; it is thus becoming cost-effective, thereby eventually benefiting patients and the overall healthcare system. In the future, to conclude its use in COVID-19 patients, chloroquine and hydroxychloroquine require a significant number of clinical trials. Some medications are in the premature stages of investigation to be used against COVID-19, such as ivermectin, and these agents may be potential therapeutic agents in the future. A highly effective way of exploiting drugs with proven safety profiles to tackle the coronavirus outbreak is to repurpose FDA-approved drugs. However, a proper delivery system and delivery route must be selected to reduce and deliver repurposed drugs locally to the target site. Repurposing may be a great possibility with clinical delivery intervention. To treat infections caused by various viruses such as SARS-CoV-2, it is important to focus rapidly on collaborative drug repurposing research and optimal drug delivery strategies and inhaler devices.

From drug development to manufacturing to legislation to consumer access and health care, the COVID-19 pandemic has taught us that the entire healthcare ecosystem must become more successful and beneficial to patients.

REFERENCES

1. Amirian ES, Levy JK. Current knowledge about the antivirals Remdesivir (GS-5734) and GS-441524 as therapeutic options for coronaviruses. One Health.2020;9:100128. https://www.sciencedirect.com/science/article/pii/S2352771420300380 12th January 2021.

2. Arnum Patricia Van (2016): Drug Repurposing and Repositioning: Making New Out of Old https://www.dcatvci.org/11-value-chain-insights/114-drug-repurposing-and-repositioning-making-new-out-of-old2nd January 2021.

3. Ashburn, T. T., & Thor, K. B. (2004). Drug repositioning: identifying and developing new uses for existing drugs. Nature Reviews Drug Discovery, 3(8), 673–683. 18th January 2021.

4. Beigel JH, Mehta AK, Dodd LE,ZingmanBS,TomashekKM,Kalil AC, et al. Remdesivir for the treatment of Covid-19-preliminary report. N Engl J Med. 2020; NEJMoa2007764. DOI: 10.1056/NEJMoa2007764. https://pubmed.ncbi.nlm.nih.gov/32445440/22nd February 2021.

5. Bridges Paul, HegdeSheela (2020): COVID-19's Long-Term Impact on Drug Development: The New Pragmatism, Contract Pharmahttps://www.contractpharma.com/contents/view_experts-opinion/2020-05-18/covid-19s-long-term-impact-on-drug-development-the-new-pragmatism/ 4th January 2021.

6. Brotherton H, Usuf E, Nadjm B, Forrest K, Bojang K, Smith AL, et al. Dexamethasone for COVID-19: data needed from randomised clinical trials in Africa. Lancet Glob Health. 2020 DOI: 10.1016/S2214-109X(20)30318-1 https://pubmed.ncbi.nlm.nih.gov/32679038/ 25th December,2020.

7. Cassidy Christine, Dever Danielle, Stanbery Laura, Edelman Gerald, Dworkin Lance & Nemunaitis John (2020): FDA efficiency for the approval process of COVID-19 therapeuticshttps://infectagentscancer.biomedcentral.com/articles/10.1186/s13027-020-00338-z#citeas 10th January 2021.

8. Chary M.A., Barbuto A.F., Izadmehr S., Hayes B.D., Burns M.M. COVID-19: therapeutics and their toxicities. J Med Toxicol. 2020:1–11. DOI: 10.1007/s13181-020-00777-5. https://link.springer.com/article/10.1007/s13181-020-00777-518th January 2021.

9. Cha Y, Erez T, Reynolds I J, Kumar D, Ross J, Koytiger G, Kusko R, Zeskind B, Risso S, Kagan E, Papapetropoulos S, Grossman I, Laifenfeld D (2020): Drug repurposing from the perspective of pharmaceutical companies
https://bpspubs.onlinelibrary.wiley.com/doi/10.1111/bph.1379825th January 2021.

10. COVID-19, MERS & SARS | NIH: National Institute of Allergy and Infectious Diseases. https://www.niaid.nih.gov/diseases-conditions/COVID-19 n.d. 15th February 2021.

11. Coronavirus (COVID-19) Update: Daily Roundup March 30, 2020. Press Announcements 2020; Available from https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-daily-roundup-march-30-2020 25th February 2021.

12. Coronavirus (COVID-19) Update: FDA Coordinates National Effort to Develop Blood-Related Therapies for COVID-19. FDA News Release 2020 April 3, 2020; Available from https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-coordinates-national-effort-develop-blood-related-therapies-covid-19 18th January 2021.

13. Coronavirus (COVID-19) Update: FDA Revokes Emergency Use Authorization for Chloroquine and Hydroxychloroquine. Press Announcements 2020; Available fromhttps://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-revokes-emergency-use-authorization-chloroquine-and 14th February 2021.

14. CSIR India Fight against COVID-19 (2020): Vertical 3: Development of Repurposed Drugs/New Drugs & Vaccine https://urdip.res.in/covid19/vertical3.jsp22nd January 2021.

15. CSIR India Fight against COVID-19 (2020): CUReD: CSIR Ushered Repurposed Drugs - A website that provides information on CSIR Partnered Clinical Trials https://iiim.res.in/cured/role.php5th January 2021.

16. Devaux CA, Rolain JM, Colson P, Raoult D. New insights on the antiviral effects of chloroquine against coronavirus: what to expect for COVID-19? Int J Antimicrob Agents. 2020;55:105938. DOI: 10.1016/j.ijantimicag.2020.105938. https://pubmed.ncbi.nlm.nih.gov/32171740/ 8th February 2021.

17. DiMasi, J. A., Feldman, L., Seckler, A., & Wilson, A. (2010). Trends in Risks Associated With New Drug Development: Success Rates for Investigational Drugs. Clinical Pharmacology & Therapeutics, 87(3), 272–277. 19th January 2021.

18. Emergency Use Authorization. Emergency Preparedness and Response 2020; Available fromhttps://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization19th January 2021.

19. Fan H.-H., Wang L.-Q., Liu W.-L., An X.-P., Liu Z.-D., He X.-Q., Song L.-H., Tong Y.-G. Repurposing of clinically approved drugs for the treatment of coronavirus disease 2019 in a 2019-novel coronavirus (2019-nCoV) related coronavirus model. Chin. Med. J. 2020 DOI: 10.1097/CM9.0000000000000797. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7147283/ 22nd January 2021.

20. FDA Issues Emergency Use Authorization for Convalescent Plasma as Potential Promising COVID–19 Treatment, Another Achievement in Administration's Fight Against Pandemic. Press Announcements 2020; Available from https://www.fda.gov/news-events/press-announcements/fda-issues-emergency-use-authorization-convalescent-plasma-potential-promising-covid-19-treatment 29th December 2020.

21. Firgens Michael (2018): DRUG REPURPOSING – A SMART DEVELOPMENT STRATEGY TO MAKE DRUG DEVELOPMENT CHEAPER, FASTER, SAFER AND MORE SUCCESSFUL https://www.biopharma-excellence.com/news/2018/9/5/drug-repurposing-a-smart-development-strategy-to-make-drug-development-cheaper-faster-safer-and-more-successful25th December 2020.

22. Gao J, Tian Z, Yang X. Breakthrough: Chloroquine phosphate has shown apparent efficacy in the treatment of COVID-19 associated pneumonia in clinical studies. Biosci Trends. 2020;14(1):72–3. 15th January 2021.

23. Goldman JD, Lye DCB, Hui DS, Marks KM, Bruno R, Montejano R, et al. Remdesivir for 5 or 10 days in patients with severe Covid-19. N Engl J Med. 2020 doi: 10.1056/NEJMoa2015301. https://www.nejm.org/doi/full/10.1056/NEJMoa2015301 21st January 2021.

24. Gordon CJ, Tchesnokov EP, Feng JY, Porter DP, Gotte M. The antiviral compound Remdesivir potently inhibits RNA-dependent RNA polymerase from Middle East respiratory syndrome coronavirus. J Biol Chem. 2020;295(15):4773–4779. DOI: 10.1074/jbc.AC120.013056.https://pubmed.ncbi.nlm.nih.gov/32094225/ 9th February 2021.

25. Johnson RM, Vinetz JM. Dexamethasone in the management of covid -19. BMJ 2020; 370. 10.1136/BMJ.m2648https://pubmed.ncbi.nlm.nih.gov/32620554/ 18th February 2021.

26. Kelleher Katie, Kumar Ketan, PatelParag, Schrader Ulf (2020): Pharma operations: The path to recovery and the next normal https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/pharma-operations-the-path-to-recovery-and-the-next-normal# 17th January 2021.

27. Kononov Masha, Brown Stephen (2020): Accelerating Life-Saving Drugs to Market During COVID-19 Pandemic, Contract Pharmahttps://www.contractpharma.com/contents/view_experts-opinion/2020-05-01/accelerating-life-saving-drugs-to-market-during-covid-19-pandemic/18th January 2021.

28. Lyapustina S. Regulatory pitfalls and opportunities when repurposing for inhalation therapy. Adv. Drug Deliv. Rev. 2018;133:57–65. DOI: 10.1016/j.addr.2018.04.013. https://pubmed.ncbi.nlm.nih.gov/29679606/ 21st December 2020.

29. Martin Jennifer H, Bowden Nikola A (2020): Drug repurposing in the era of COVID-19: a call for leadership and government investmentdoi: 10.5694/mja2.50603 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267456/25th January 2021.

30. Medicine, I.o., Medical Countermeasures Dispensing. In: Stroud C, Nadig L, Altevogt BM, editors. Emergency Use Authorization and the Postal Model: Workshop Summary, vol. 94. Washington, DC: The National Academies Press; 2010. https://pesquisa.bvsalud.org/portal/resource/pt/lis-LISBR1.1-2558622nd February 2021.

31. Mulenga S, et al. A randomized, controlled trial of Ebola virus disease therapeutics. N Engl J Med. 2019;381(24):2293–303. https://www.nejm.org/doi/full/10.1056/NEJMoa191099318th February 2021.

32. Newman S.P. Delivering drugs to the lungs: the history of repurposing in the treatment of respiratory diseases. Adv. Drug Deliv. Rev. 2018;133:5–18. DOI: 10.1016/j.addr.2018.04.010.https://pubmed.ncbi.nlm.nih.gov/29653129/ 24th January 2021.

33. Nicastri E, Petrosillo N, Bartoli TA, Lepore L, Mondi A, Palmieri F, et al. National Institute for the infectious diseases "L. Spallanzani", IRCCS. Recommendations for COVID-19 clinical management. Infect Dis Rep. 2020;12:8543. DOI: 10.4081/IDR.2020.8543. https://pubmed.ncbi.nlm.nih.gov/32218915/10th January 2021.

34. Nurton James (2020): WIPO- World Intellectual Right Property Organization Magazine https://www.wipo.int/wipo_magazine/en/2020/02/article_0004.html11th January 2021.

35. ParvathaneniVineela and Gupta Vivek (2020): Utilizing drug repurposing against COVID-19 – Efficacy, limitations, and challenges DOI: 10.1016/j.lfs.2020.118275 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7430345/#bb04658th January 2021.

36. PHELPS KEN (2020): Repurposing Drugs As an Answer to the COVID-19 Crisis https://camargopharma.com/resources/blog/repurposing-drugs-as-an-answer-to-the-covid-19-crisis/17th January 2021.

37. RECOVERY Collaborative Group, Horby P, Lim WS, Emberson JR, Mafham M, Bell JL, et al. Dexamethasone in hospitalized patients with COVID-19 - preliminary report. N Engl J Med. 2020: NEJMoa2021436 doi: 10.1056/NEJMoa2021436. https://pubmed.ncbi.nlm.nih.gov/32678530/18th February 2021.

38. Roundtable on Translating Genomic-Based Research for Health; Board on Health Sciences Policy; Institute of Medicine, Washington (DC): National Academies Press (US) (2014): Drug Repurposing and Repositioning: Workshop Summary.https://www.ncbi.nlm.nih.gov/books/NBK235871/31st January 2021.

39. Sheahan TP, Sims AC, Graham RL, Menachery VD, Gralinski LE, Case JB, et al. Broad-spectrum antiviral GS-5734 inhibits both epidemic and zoonotic coronaviruses. SciTransl Med. 2017;9:eaal3653. DOI: 10.1126/scitranslmed.aal3653. 11th February 2021.

40. Senanayake S.L. Drug repurposing strategies for COVID-19. Future Drug Discovery. 2020 DOI: 10.4155/FDD-2020-0010.https://www.future-science.com/doi/full/10.4155/fdd-2020-001020th January 2021.

41. Singh Jyoti (2020): Cipla set to launch repurposed drug Favipiravir for COVID-19: CSIR https://www.downtoearth.org.in/news/health/cipla-set-to-launch-repurposed-drug-favipiravir-for-covid-19-csir-7247731st December 2020.

42. Singh Thakur Uttam, ParidaSubhashree, LingarajuMadhuCholenahalli, KesavanManickam, Kumar Dinesh, Singh Raj Kumar (2020): Drug repurposing approach to fight COVID-19 doi: 10.1007/s43440-020-00155-6 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7474498/8th January 2021.

43. Theoharides TC, Conti P. Dexamethasone for COVID-19? Not so fast. J BiolRegulHomeost Agents.2020;34(3).https://doi.org/10.23812/20-EDITORIAL_1–5. https://pubmed.ncbi.nlm.nih.gov/32551464/28th January 2021.

44. U.S. Food and Drug Administration (2020) Coronavirus (COVID-19) Update: FDA Continues to Facilitate Development of Treatments https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-continues-facilitate-development-treatments15th January 2021.

45. Vanstone Kevin (2020): Pharmaceutical Companies Repurposing Drugs to Accelerate Growth https://investingnews.com/innspired/repurposing-drugs-to-accelerate-growth/18th January 2021.

46. Wang Y, Zhang D, Du G, Du R, Zhao J, Jin Y, et al. Remdesivir in adults with severe COVID-19: a randomised, double-blind, placebo-controlled, multicentre trial. Lancet. 2020;395:1569–1578. DOI: 10.1016/S0140-6736(20)31022-9.Erratum.In:Lancet.2020;395:1694.dhttps://www.sciencedirect.com/science/article/abs/pii/S014067362031022922nd January,2021.

47. Walker Nigel (2017): Accelerating Drug Development Through Repurposing, Repositioning and Rescue https://www.pharmoutsourcing.com/Featured-Articles/345076-Accelerating-Drug-Development-Through-Repurposing-Repositioning-and-Rescue/18th February 2021.

48. Yusuf IH, Sharma S, Luqmani R, Downes SM. Hydroxychloroquine retinopathy. Eye (Lond). 2017;31:828–845. DOI: 10.1038/eye.2016.298.https://pubmed.ncbi.nlm.nih.gov/28282061/ 22nd February 2021.

HEALTHCARE DATA ANALYTICS: A PROMISING APPROACH TO MANAGE BIG DATA IN HEALTHCARE AND PHARMA

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ABSTRACT

Business managers have to deal with huge amount of data in this technology age. Big data implies highly complex datasets, making them hard to deal with using conventional methods and techniques. Like different industries, things are changing exceptionally quickly in the pharmaceutical and healthcare industries. The organization gets very little time to earn on the investment with the limited time patent period of the drug. There is a significant need to accelerate business profitability with the help of innovative technological salutations. In this study, our objectives are to explore the benefits of big data analytics for healthcare and pharmaceutical business profitability; to understand the role of big data analytics in cost, time, and data management for different operations in healthcare and pharmaceutical industries and to assess the hurdles and challenges in healthcare data analytics. In this paper, the researchers have done secondary research. Big data analytics in pharmaceutical and healthcare is hugely beneficial for coordinating, investigating, and breaking down a lot of complex heterogeneous data with various natures. Healthcare data analytics can mitigate expenses of drug development, treatment, anticipate up-coming pandemics, reduce and manage communicable and preventable diseases, and improve the patient outcome and overall health. Data analytics can help the healthcare and pharmaceutical industry in different ways; therefore, it is imperative to understand its significance.

INTRODUCTION

The Healthcare business, in general, creates lot of data of various forms. The data includes organizational information, patient records, customer data, and business reports. The industry is moving towards fast digitization to deal with the plethora of data. (Raghupathi W 2019). Driven by essential requirements and the ability to improve the structure of healthcare services along with reducing the expenses, these large amounts of data, termed as 'big data, hold the potential of supporting a wide range of clinical and healthcare tasks, including public health and disease management.

To get the best medical facilities and care for patients, healthcare industries worldwide have proposed different healthcare data models. These models are dependent on utilizing electronic medical records and a massive amount of complex clinical data (Dash Sabyasachi et al., 2019).

Big data in healthcare and pharma includes these different huge and complex data, which are hard to analyze and deal with traditional and manual methods. A mix of various data, examination of data quality, showcasing, translation and approval is covered by the data analytics. Big data analytics helps in discovering and collecting a large amount of data of healthcare from data mining sources (Raghupathi W 2019)

Healthcare organizations have consistently dependent on accurate data to differentiate patterns, test results, and understand the drug efficacy. Data analytics is simply an advancement in the traditional pattern of data handling (Bates D.W.2014)

LITERATURE REVIEW

According to Bates DW and Saria (2014), big data refers to data that is so large in terms of velocity variety and volume that it cannot be handle through traditional and manual data management tools.

Vangie Beal (2021) refers; Big Data analytics as to the activity of gathering, assessing, and examining a huge amount of data (Big Data) to understand other valuable information from it. Big Data analytics can help associations comprehend information from the data and help to recognize the data that have significance for the business by using different data analytics tools.

According to Frost and Sullivan (2020), in the healthcare business, big data refers to the massive amount of complex electronic medical data sets that are not easy to deal with in a traditional way or by manual programming; and it is hard to manage it with traditional data management tools.

Bian J, Topaloglu U, Yu F(2012), describe big data in healthcare includes data related to patient's medical history, laboratory test reports, health care, insurance, reimbursement, medical imaging, pharmacy, bills, prescription, medicines, and patients personal information.

OBJECTIVES

- To understand the role of big data analytics in healthcare and pharma business organizations.
- To determine the uses and benefits of data analytics in healthcare and pharma
- To determine challenges of data analytics in healthcare

METHODOLOGY

In this paper, the researchers have done secondary research. Many databases on healthcare data analytics have been consulted. Extensive subject literature, review articles, and research papers were reviewed. Experts in the field have been contacted during paper development.

RESEARCH DESIGN

The researchers have performed research on exploratory & descriptive approaches, based on the healthcare industry and data analytics. The research has been used to identify the major factors which are involved in healthcare data analytics; the companies can start generating a profit by using data analytics tools to manage the massive amount of data. This has been exploratory and descriptive research, as it used both the secondary sources as research papers and other relevant study material. For this research, the major data has been gathered from secondary sources.

BENEFITS OF BIG DATA ANALYTICS IN HEALTHCARE
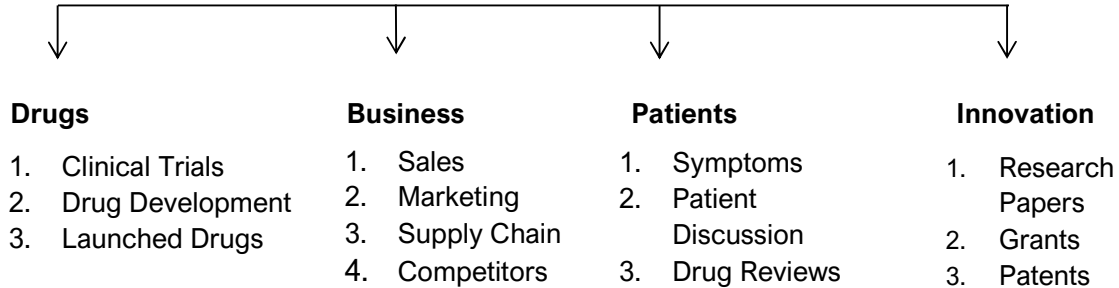
1. Helps in disease management and understanding
2. Helps in disease prevention
3. Helps in drug development
4. Improves communication
5. Improves diagnosis and treatment
6. Improves patient satisfaction
7. Improves performance of the organization
8. Increase patient safety
9. Minimize the errors
10. Prediction of disease trends and location
    11. Real-world patient data

12. Reduce cost, enhance quality and efficiency

Figure 1: Uses of data analytics in Healthcare and Pharma

Drugs	Business	Patients	Innovation
1. Clinical Trials	1. Sales	1. Symptoms	1. Research Papers
2. Drug Development	2. Marketing	2. Patient Discussion	2. Grants
3. Launched Drugs	3. Supply Chain	3. Drug Reviews	3. Patents
	4. Competitors		

Source: The Economics Times Report (2019)

In the pharma and healthcare industry, things are changing rapidly like other significant industries. The process of drug development, pricing, and marketing is a lengthy process that involves a lot of complex data. Healthcare organizations are now moving towards a digitalized approach to managing the different operations (Raghupathi W 2019), as shown in Figure 1.

A. Drugs

The utilization of big data is not anymore restricted to functions that are directly related to customers like sales, advertising, and promoting. In the drug business, big data analytics is providing assistance to the organizations to manage lowering growth rates (C. Louis 2016). Big data analytics is opening the doors of opportunities for organizations in the pharma business to manage complex business conditions appearing due to the lot of data. The precise use of these datasets can help organizations in drug development. Additionally, big data analytics has empowered organizations to improve clinical trials, drug development, pharmacovigilance, and risk minimization (Chai Wesle 2021).

1. In clinical trials, the undergoing patients must meet the certain requirements of trials. Data analytics helps to filter out and identify the appropriate patients for clinical trials. It also helps in patient monitoring, identifying side effects, and reviewing the trials (Dr. Smarta RB. 2019). Data analytics manages the complex data of the several stages of clinical trials and improves drug safety and efficacy. It also reduces the cost of clinical trials (Dash Sabyasachi et.al 2019).

2. In drug development, data analytics plays a significant role to speed up the whole process. From assessing and analyzing the scientific literature and results of clinical trials to manufacturing, quality control, and post-production rituals, data analytics is an important tool (Ristevski Blagoj et.al. 2018).

3. By utilizing data analytics, pharma companies can launch a product with more patient value and limit the danger of product failure during the launch. It helps in increasing the engagement of the brand among customers (Bates DW and Saria 2014).

4. Data analytics also helps in product forecasting and estimating the success of the newly launched products. It helps collect customer's feedback for a newly launched product (Zhang Xinzhi et.al. 2017)

B. Business

By utilizing data analytics, pharma organizations can rapidly locate the new, undiscovered, underserved and potential markets to comprehend data from various sources, for example, demographic, socioeconomics, clinical records, and public health data from different sources, based on that the company can divide their customers easily into segments and can target the right customer in a right manner(Raghupathi W 2019).

Pharma organizations are also modifying their marketing approach based on doctor's behavior, demands, and interests. There is a higher possibility of the doctor prescribing a specific brand's drug if the marketing strategy is customized according to his character; for example, if one doctor is result-oriented and focused more on the ability of a drug to treat the disease and the other is having a scientific focus who requires the minute details of the molecule, mechanism of action and side effects. With the help of Data Analytics, pharma companies can analyze the doctor's behavior and segmentize such doctors based on their prescribing habits, and based on that the company can customize their marketing strategies according to the doctor (Data Analytics in the Pharmaceutical Industry 2021).

With the constant pressure of reducing costs, pharma organizations are hoping to upgrade their supply chain and improve operational activities. Organizations can use big data analytics to have a clearer picture of their sales and supply process. It can help them in forecasting and anticipating the demand and according to that company can plan their manufacturing (Bian J, 2020). Data analytics can help in the tracking of inventory and give more visibility to the company as well as stakeholders regarding stock availability.

With the help of data analytics, healthcare organizations and pharma companies can monitor the market competition. It helps them to identify their prominent competitors, their growth, and their market standings (Chakraborty M 2021)

Patient

1. Big data analytics can improve patient outcomes by managing all the health records and medical data of the patients like their test reports, medical history, demographic and socioeconomic data of the patients to segmentize the patients to provide cost-effective patient-centric care (Zhang Xinzhi et.al. 2017). Data related to patients' age, gender, weight can help to identify the group which is more prone to a particular disease.

2. Data analytics can be used to create patient awareness for disease prevention and treatment. It helps to predict health disasters and disease patterns for a particular area.

3. Different hospitals can be connected using data analytics and information technology and a referral pathway can be created for patients. It could be used in patient mapping, analyzing, patient monitoring, and tracking, and reimbursement process.

4. Patient feedback and reviews can be recorded, and this can help in the improvement of public and private healthcare (Dr. Smarta RB. 2019).

Innovation

1. Data analytics can help store the current and previous data. The new data is constantly updated, which can be used in drug and vaccine innovation for the diseases based on available data. It also helps in reviewing the concerned literature and research articles and various journals to collect the data related to demography, epidemiology, and scientific material for developing drugs and vaccines.

2. Many innovative ideas can also be generated by using big data in healthcare, and analytics makes it easy to comprehend the data in one place. It also allows the comparative analysis and differentiation of massive amounts of healthcare data (Bates D.W et.al. 2014).

3. To patent a drug, the documentation and litigation part is most important, and data analytics can smooth down the complex process by managing the whole data (Chakraborty M 2021).

Challenges of data analytics in healthcare

- Because of the absence of an effective data management process, capturing data is the biggest hurdle for medical organizations and healthcare associations. To utilize data more productively, it should be perfect, exact, and effectively designed to be utilized across different healthcare arrangements (Dr. Smarta RB. 2019).

- Nowadays, most patient records are saved for quick and simple access in a unified database, but the issue arises when there is a requirement to share this data with other healthcare professionals.

- For most medical professionals, data security is one of the biggest issues with constantly increasing hacking and security breaking that should be taken care of (Raghupathi W 2019).

- When managing extremely confidential data and patient-related data, which are important, the healthcare industry should be extremely cautious.

CONCLUSION

Healthcare organizations deal with the massive amount of data from patients' personal and health information to their organization's data, and it is not possible to manage it manually or with traditional data-handling tools (Frost & Sullivan 2020). Healthcare and Pharmaceutical organizations are now moving towards digitization rapidly as any other organization. Data analytics is useful in almost every operation of the healthcare and pharmaceutical business, like Innovation, research and development, clinical trials, production, manufacturing, sales and marketing, patient mapping, creating awareness, supply chain, and taking feedback (Dolzele Diane 2019).

Data analytics is playing an important role in big data management but, some significant challenges like; security, confidentiality, accuracy, hacking, data theft, and other malpractices are some of the major concerns of the healthcare and pharmaceutical industries (Chakraborty M 2021). To manage the sensitive data of the healthcare industry, some prominent solutions are needed to avoid any data mishandling (Ristevski Blagoj et al. 2018).

REFERENCE

1. Bates D.W., Saria S., Ohno-Machado L., Shah A., Escobar G. (2014) big data in health care. Health Aff (Millwood); 33(7):1123–1131

2. Beal Vangie, Big Data Analytics Definition & Meaning, Webopedia, Retrieved from https://www.webopedia.com/definitions/big-data-analytics/accessed on January 2021.

3. Bian J, Topaloglu U, Yu F, Yu F. (2012). Towards Large-scale Twitter Mining for Drug-related Adverse Events.

4. C. Louis (2016). Ten Ways Big Data Is Revolutionizing Marketing and Sales. Retrieved from https://www.forbes.com/sites/louiscolumbus/2016/05/09/ten-ways-big-data-is-revolutionizing-marketing-and-sales/?sh=2b2a292d21cf accessed on December 2020.

5. Chai Wesle. Big data analytics. (2020).Tech target. Retrieved from https://searchbusinessanalytics.techtarget.com/definition/big-data-analyticsaccessed on January 2021.

6. Chakraborty Monoxide, (January 4, 2021), Big data analytics in healthcare: Possibilities and challenges, Analytics insights, Retrieved from https://www.analyticsinsight.net/ accessed on December 2020.

7. Dash Sabyasachi et.al. (2019).Big data in healthcare: management, analysis and future prospects. Journal of big data. Retrieved from https://journalofbigdata.springeropen.com/articles/10.1186/s40537-019-0217-0 accessed on December 2020.

8. Data Analytics in the Pharmaceutical Industry. Upgrad Enterprise. Retrieved from https://www.upgrad.com/blog/data-analytics-pharmaceutical-industry/accessed on January 2021.

9. Dolzele Diane. (2019). big data analytics: Investigating the diffusion of information. Perspective in health information management. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6669368/ accessed on January 2021.

10. Dr. Smarta RB. (2019). Data Analytics helping pharma companies customize their marketing to doctors. ETHealthWorld. Retrieved from https://health.economictimes.indiatimes.com/news/health-it/data-analytics-helping-pharma-companies-customize-their-marketing-to-doctors-dr-rb-smarta/70884752 accessed on December 2020.

11. Frost & Sullivan. Drowning in Big Data? Reducing Information Technology Complexities and Costs for Healthcare Organizations. Retrieved from http://www.emc.com/collateral/analyst-reports/frost-sullivan-reducing-information-technology-complexities-ar.pdf accessed on December 2020.

12. Raghupathi W. Data Mining in Health Care. In: Kudyba S, editor. (2010). Healthcare Informatics: Improving Efficiency and Productivity. Retrieved from http://www.fordhamcdt.org/img/2013/07/HealthAnalyticsJournalPaperVersion5.final_.pdf accessed on January 2021.

13. Ristevski Blagoj et.al. (2018). Big data analytics in medicine and healthcare. Journal of integrative bioinformatics. 15(3): 20170030. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6340124/ accessed on December 2020.

14. Zhang Xinzhi et al. (2017). Big Data Science: Opportunities and Challenges. Ethnicity and Disease, 27(2): 95–106. Retrieved from https://pubmed.ncbi.nlm.nih.gov/28439179/ accessed on December 2020.

IMPACT OF COVID-19 PANDEMIC ON THE INDIAN INSURANCE SECTOR

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ABSTRACT

The outbreak of the COVID-19 Pandemic has caused massive economic shocks worldwide due to the business interruptions and shutdowns which has led to the worst financial crises. India is one of the countries which severely got affected by the deadly novel coronavirus. Even though the insurance industry has been hit majorly due to the Pandemic, the future seems hopeful. The industry can grow through innovative products and new-service-based models. This chapter highlights the challenges and opportunities for the Indian Insurance Sector during this pandemic.

Introduction

The Insurance industry plays a significant role in the Indian economy by providing safety to individuals, groups, institutions, and businesses. The Indian Insurance industry is growing at 15-20 percent and adds about 7 percent to the GDP. The Indian Life Insurance industry comprises Life Insurance and Non-Life Insurance. It is governed by the Insurance Regulatory and Development Authority of India, regulating and monitoring the insurance sector.

STRUCTURE OF INSURANCE SECTOR IN INDIA

Figure 1: Structure of Insurance Industry in India
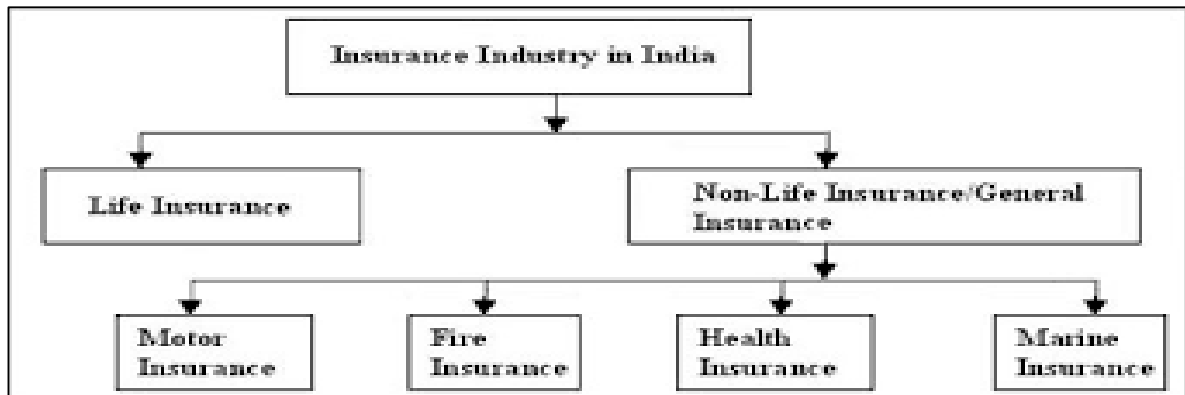
Source: Author compilation

Life insurance companies offer life cover to individuals, and non-life insurance companies offer coverage like travel, health, vehicles and home insurance, crop, industry, gadgets, and pets.

The COVID-19 pandemic has a significant impact on business, individuals, society, and the economy worldwide. (Sravani, 2020) The deadly novel coronavirus has triggered structural changes in all sectors. The insurers have to face many challenges as the economy recovers and see many new opportunities shortly. This Pandemic could be one of the most severe challenges the Indian financial services industry faces in nearly a century, and the Indian insurance industry buckled down very efficiently.

According to McKinsey's analysis, the Pandemic affected the insurance sector globally, with a decrease in the index by 22.6 percent. The share prices in the insurance sector have dropped by 25.9 percent.

PwC report says that the two productive months for the insurance industry—March and April for renewals have hit by around 30% and 15%, respectively.

The General Insurance market has suffered as it depends on the performances of industries and individual businesses. IRDA has mandated all general and health insurers to start policies for their customers as these policies cover the hospital and medical expenses of COVID patients. Life Insurance directly correlates with the earnings of people, their business performance, and net worth. Due to the onset of the Pandemic, there has been an increase in the number of policies. According to the PwC report, pure life covers should see

renewed interest, and thus, see a boost in demand. The automobile sector, which accounts for over 35% of the overall insurance premium collection, witnessed a slowdown, thus reducing significant revenue.

Figure 2: Market performance of Indian and global insurance companies
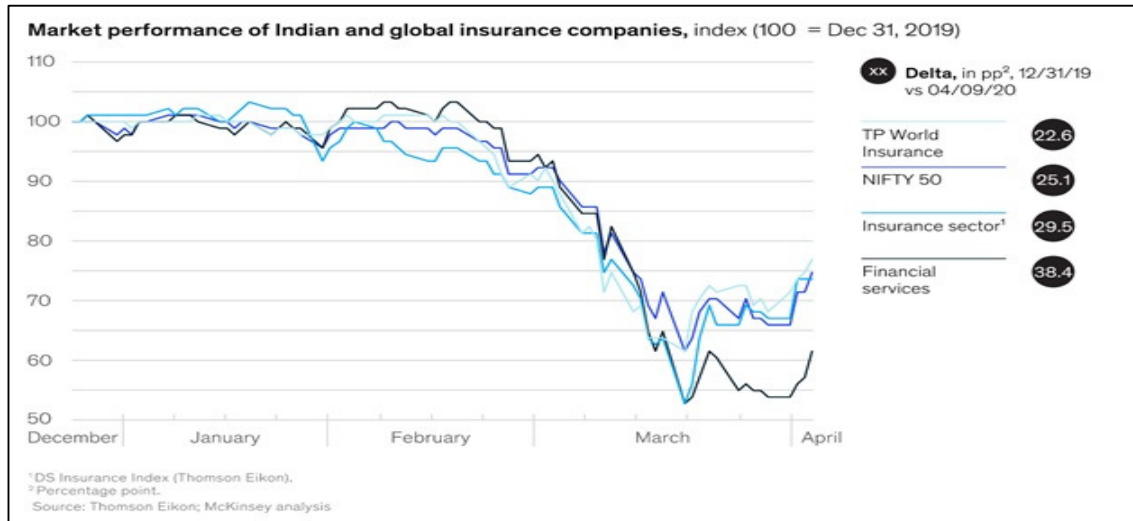
Source: Thomson Eikon; McKinsey analysis

KEY CHALLENGES FACING INDIA'S INSURANCE INDUSTRY DURING THE PANDEMIC

The COVID-19 Pandemic has raised many challenges for the Indian insurance sector. The insurance companies were facing operational and procedural difficulties, which has led to dips in revenue and depleting reserves.

• **Business Stability:** As the insurance sector is a highly complex business involving multiple processes, one must plan the risks on insurers' existence.

• **Managing employee Welfare:** As the insurance sector moves towards digitization, it will be employee-centric and a mass shift to remote working. Employers need to work remotely to support the customers and the enterprise operations as the premises will not be available. There was an urgent need to balance working from home procedures by minimizing in-person meetings and dealing with the clients virtually.

• **Crisis management and resolution:** There is a need for the Insurers to monitor the crisis and initiate the necessary measures to communicate and manage the employees and customers effectively. They must maintain frequent communications with regulators, customers, partners, agents, and brokers, shareholders to build confidence and ensure continuity of service and rethink processes.

• **Capital adequacy:** Insurers have started experiencing liquidity and solvency challenges. Insurers are required to closely monitor their liquidity and ensure financial resilience by maintaining prescribed regulatory solvency. They should manage the investor

community, intra-group stakeholders, and rating agencies on overall performance and stability.

•   **Claims Processing:** The Claims volume has reduced drastically due to the lower level of economic activity. There were only a few accident claims with the customers staying at home.

•   **Cybersecurity:** It has demanded the challenge of building an appropriate IT infrastructure within a short time with the increase in remote access requirements. There was an increased level of criminal activity, which has impacted the companies and their customers. It has increased the risk of cyber incidents and scams to which the insurance companies were inevitably vulnerable and easy targets. The Insurers have to increase their Cyber fraud prevention and monitoring activities.

Response to the Crisis

As the insurance can protect against many of the financial impacts, the outbreak of COVID-19 has created uncertainty and offered a unique opportunity for the insurers to rethink innovation, improved customer experiences, and an upskilled and reskilling workforce. The number of customers contacting their insurer during the Pandemic increased. COVID-19 has been the catalyst for innovation in the Insurance Sector.

Customer Outreach: There was a significant increase in the communication with the customers by the Insurers. They need to communicate to their customers concerning COVID-19 coverage and related policies. They should bring more value to their customers by launching and announcing packages for COVID-19 patients. Insurers need to monitor and review the business that requires customer support and attention.

Claims-Management Processes: The payment of claims has become a challenge for the Insurers. They need to carefully evaluate and simplify claims processing virtually by upgrading interactive voice-response systems. Artificial Intelligence and Robotics can replace field visits.

Digitization: Insurers have undergone a digital transformation by which they could benefit from digital and automation tools at the product level. They will reprioritize technology into InsurTech, digital distribution, and technological infrastructure. Digital underwriting can be used to maximize customer reach. They should establish Risk Management teams to assess and respond to the crisis. They can also implement auto-renewal for most cases using analytics.

INNOVATIONS IN PRODUCT PORTFOLIO

The insurance Sector has managed risks traditionally through the products sold by the intermediaries and protected against threats. Insurers should sell more products with better flexibility and convenience. They can launch innovative and more capital-efficient insurance products for specific risks and reward life-insurance customers for maintaining a healthy lifestyle. During the COVID-19 Crisis, The Insurance Regulatory and Development Authority of India (IRDAI) has made health insurance products more customer-friendly and aimed at bringing maximum people under the insurance umbrella. The Internet of Things will help the insurers initiate the damage repair and claim process in auto insurance. Voice Analytics can be used to analyze and record customer interaction and experience.

Modernization of distribution channels

The insurance distribution channel globally has got affected by the Pandemic. There is a need for the Insurers to rethink their distribution model and establish a digital agency channel for online recruitment, selection, and training with videos. They should encourage the sales forces and also the intermediaries to move entirely online to improve productivity. The reward and recognition schemes have to be introduced for agents and intermediaries.

CONCLUSION

The Pandemic has posed an unexpected shock to the Indian Insurance Sector. The Insurers must act decisively to overcome the disruption created by the Pandemic. A robust insurance sector has contributed to India's growth in recent years. The government and IRDAI should get back to rebuilding the insurance sector. There should be regular updates with the regulatory authorities by the insurers. The strategies have to be re-evaluated, including business lines and products to reflect the business's Pandemic's impact. Insurers need to adapt to the Customers' expectations of what products and solutions they need. Channel strategies will need to be updated. New operating models viewed as unachievable will be at the forefront of planning. Investments in automation, including AI and RPA, have to be increased. The M&A opportunities for insurers may crystallize the further growth in existing lines of business or new segments. The World Bank can assist the insurers with training on Crisis response strategies and offer financial assistance to the insurers who cannot recover the loss.

REFERENCES

1. Babuna, Pius & Yang, Xiaohua & Gyilbag, Amatus & Awudi, Doris & Ngmenbelle, David & Bian, Dehui. (2020). The Impact of COVID-19 on the Insurance Industry. International Journal of Environmental Research and Public Health. 17. 5766. 10.3390/ijerph17165766.

2. Cerra, V.; Saxena, S.C. Growth dynamics: The myth of economic recovery. Am. Econ. Rev. 2008, 98, 439–457

3. Dreyer, A.; Kritzinger, G.; Decker, J.D. Assessing the Impact of a Pandemic on the Life Insurance Industry in South Africa. In Proceedings of the 1st IAA Life Colloquium, Stockholm, Sweden, 10–13 June 2007

4. Peer, N.C.; Shrestha, N.; Rahman, M.S.; Zaki, R.; Tan, Z.; Bibi, S.; Baghbanzadeh, M.; Aghamohammadi, N.; Zhang, W.; Haque, U. The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: What lessons have we learned? Int. J. Epidemiol. 2020, 10, 14–25

5. Ramasamy, Dr. Kannamani, Impact Analysis in Banking, Insurance and Financial Services Industry Due to COVID-19 Pandemic (August 6, 2020).

6. Ramasamy, Dr. Kannamani, Impact Analysis in Banking, Insurance and Financial Services Industry Due to COVID-19 Pandemic (August 6, 2020). Pramana Research Journal, Volume 10, Issue 8, 2020, Available at SSRN: https://ssrn.com/abstract=3668165Sravani Kumari, B., & Sruthi, A. (2020, June). Impact of COVID-19 on the Indian Economy. In Perspectives on Business Management & Economics (Vol. 1, pp. 1-14). Retrieved from http://www.pbme.in/papers/3.pdf

7. https://www.mckinsey.com/industries/financial-services/our-insights/how-indian-insurance-companies-can-respond-to-coronavirus

8. https://www.pwc.com/us/en/library/covid-19/covid-19-and-insurance-industry.html

9. https://www.financialexpress.com/money/insurance/5-new-trends-that-will-shape-insurance-industry-in-2021/2192643/

QUALITATIVE REVIEW OF LITERATURE FOR ARTIFICIAL INTELLIGENCE IN TODAY'S BUSINESS SCENARIO

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ABSTRACT

The purpose of this paper is to review the literature for Artificial Intelligence as a disguise of business today. Artificial intelligence acts very well role in different field of management. In today's scenario Artificial intelligence makes smart decision from vague information. Artificial Intelligence eliminates the guess work in business. By the using of this technology a businessman can saves time and cost both. This paper highlighting the review of literature on act of AI in business premises. Review of literature provides lots of information and research gap also. The review of literature provides the idea to evaluate the writing and paves the way for future research also. There are various types of literature review named as traditional, systematic, meta-analysis and Meta synthesis. All types of review are narrated in this paper with Artificial Intelligence in business sector. This study applied secondary data in the form of journal's 'article and research paper. Study uses the qualitative approach to find out depth knowledge. Study concludes that Artificial Intelligence is fantastic technology and implemented in the field of business, medical, transportation, education, agriculture etc. Study also reveals that artificial intelligence makes business dynamic that saves time and cost.

INTRODUCTION

The introductions of a research paper tell the reader about the subject and approach. It has several objectives as it introduces about subject and piques the reader's interest. It provides background information or a summary of existing studies. It also describes particular research issues in detail (Scribbr 2020). Literature writing and survey is considered from books, scholarly articles, and some different sources pertinent to a particular issue, an area of assessment, or speculation. Doing so gives a portrayal, framework, and fundamental evaluation of these works equivalent to the investigation issue being explored. Composing studies are expected to give a framework of sources you have examined while investigating a particular point and show readers how the investigation fits inside a greater field of study. The aim of this paper is to review the different literature regarding Artificial Intelligence. This paper explained the role of artificial intelligence in agriculture, medical, transportation, business education, etc.

AI IN TRANSPORT BUSINESS

Another report distributed by the "Man-made reasoning, Automation, and the Economy," Executive Office of the U.S. President in 2016, states that 2.2 to 3.1 million truck train or cab driver occupations could be affected without help from anyone else driving vehicle innovation in the United States. The report additionally expresses that on-request vehicle administrations, like Uber, will make a total change to independent tasks sooner rather than later.

Even though AI will affect a critical number of regular positions in the transportation business, the fluctuating levels of appropriation across geologies and the yet unfulfilled necessity of building up moral guidelines are a few restrictions that may change a slower process. **(Raghav Bharadwaj, 2019)**

Sadek, A. W. (2007). This study investigates the importance of AI in transportation. This study analyses AI-based upon Knowledge-based, fuzzy logic, and neural network—all these help in driving and balancing the vehicle through restored data and data mining. As of recent years, there has been expanded interest among both transportation specialists furthermore, experts in investigating the possibility of applying man-made reasoning (AI) ideal models to address a portion of the previously mentioned issues to improve the effectiveness, security, and ecological similarity of transportation frameworks. For example, the advancement of broadly useful issue solvers. This is a narrative and integrative type of literature review. If the exploration does not include primary information assortment and information examination, at that point utilizing integrative writing review will be your solitary alternative.

Raghav Bharadwaj, (2019). This study investigates the different functions of AI for transportation. Researcher reveals different folds of artificial Intelligence. Raghav

investigated and examined various examples of Artificial Intelligence in the transportation sector as Autonomous Buses. Small-scale autonomous bus transport preliminaries have been started everywhere in the world lately, most noticeably in Finland, Singapore, and China.

OLLI BY LOCAL MOTORS

Olli is a self-driving, 'intellectual' electric transport from American organization Local Motors, Traffic Management Operations (AI arrangements have been as often as possible applied in settling control and advancement issues. Business pioneers would think that it's fascinating to note that AI is, being utilized in applications like forecast and identification of car crashes and conditions (by changing over traffic sensors into 'insightful' specialists utilizing cameras). Uber Advanced Technologies Group (In October 2016, San Francisco startup Otto (presently called Uber Advanced Technologies Group in the wake of being purchased by Uber for $680 million of every 2017) effectively finished the world's first self-ruling truck conveyance hefting around 50,000 jars of Budweiser brew over separation of 120 miles from Fort Collins to Colorado Springs, CO.)

TuSimple - a Chinese start-up established in 2015, effectively finished a 200-mile level 4 (see the standard degrees of self-ruling driving) test drive for a driverless truck passed from Yuma, Arizona, to San Diego, California. TuSimple claims that its driving framework was prepared to utilize profound figuring out how to re-enact a huge number of miles of street driving.

GE TRANSPORTATION

GE Transportation has put forth a purposeful attempt towards applying man-made consciousness in the transportation area. Hitachi has started a pilot venture utilizing its in-house AI innovation to lessen power burned-through in driving moving stock. The AI stage is taken care of contributions from nine boundaries of moving stock operational information, such as carriage speed, and three boundaries pertinent to follow framework, such as the inclination. The study of Raghav reveals the latent power and utilization of Artificial Intelligence in the transportation sector. This is an integrative literature review where already published data are analyzed and review on secondary data.

AI IN MARKETING

For the most part, the present advertisers search for better approaches to discover and draw in their optimal customers. (Bagchi & Mohanty, 2020) Yet, in the relentless and ever-advancing digitized computerized promoting scene, it's getting increasingly hard to contact your kin and get results. Hence Come into   AI in marketing. (Moreno, L. 2019,).

MORENO, L. (2019): Magnolia Market, the physical shop (brick-and-mortar) possessed by Joanna and Chip Gaines, is known for its heavenly client experience. The mission of Magnolia's actual area is to "rouse you to possess the space you're in." To accomplish this objective, the space they've made is a genuine brand experience that joins food, games, shopping, and a nursery. Since not every person can visit the Magnolia Silos, the group felt that its web-based

business activity likewise required the ability to convey a similar encounter. Magnolia worked with Shopify Plus to make a customer-facing facade and an increased reality application that permits clients to see items in 3D and "spot" them in their home. AR permitted Magnolia to deliver its items with the most elevated conceivable photograph authenticity. Chase Bank Bank marked a five-year manage Persado, a New York-based organization that applies computerized reasoning to showcasing innovation. Subsequent to testing Persado's answers, Chase found that utilizing AI in their copywriting really helped them accomplish greater mankind in their promotion.

Starbucks Uses Predictive Analytics to Serve Personalized Recommendation. As per the research firm Aberdeen, organizations that are distinguishing customers' needs and needs through prescient investigation can expand their natural income by 21% year-over-year, contrasted with a normal of 12% without prescient examination. Starbucks is one case of a brand that is utilizing its devotion card and portable application to gather and examine client information. They reported designs for personalization in 2016.

ALIBABA: A FASHION AI STORE

Retail outlet Alibaba opened a physical "FashionAI" store in Hong Kong with the objective of smoothing out the retail design insight using Artificial Intelligence. The store is outfitted with astute articles of clothing labels that distinguish when the thing is contacted and shrewd mirrors that show attire data and recommend organizing things. Alibaba likewise has tentative arrangements to coordinate the physical store with a virtual closet application that will permit clients to see the outfits they took a stab at coming up.

CUSTOM NIKES IN 90 MINUTES

In 2017, Nike dispatched a framework that permitted customers to plan their own shoes available. The "Nike Makers' experience" permits clients to put on clear Nike Presto X shoes and pick their own designs and shadings. Utilizing enlarged reality and projection frameworks, the framework at that point shows the plan on the clear shoes. The plans are imprinted on the tennis shoes and accessible to the client in around an hour and a half.

AI-ENHANCED BMW SPORTS CAR

BMW's AI-upgraded sports vehicle is an item intended for the vehicle and innovation devotee who esteems selectiveness and early appropriation. (Costs for the BMW I8 start at $150,000.) The vehicle has the innovation to find out about its driver and afterward consequently change frameworks and lodge insight to suit every person. The vehicle brand likewise dispatched a shrewd individual associate that empowers drivers to speak with their vehicles similarly that they do with their cell phone.

Stitch Fix Pairs Human Stylists with Artificial Intelligence to Refine Customer Recommendations

Stitch Fix is an internet styling administration that conveys a customized combination of design items to every customer's efficiency of Artificial Intelligence. Computer-based intelligence investigates the information on style patterns, body estimations, client criticism, and inclinations and conveys a limited arrangement of potential proposals to the human beautician.

AI IN BUSINESS DECISION MAKING

Yogesh Yanqing Duan, John S.Edwards, Yogesh Dwivedi (2019): The target of this examination was to uncover the utilization of Artificial Intelligence in dynamic. This examination tells that AI for choice makes all in all and the particular issues with respect to the cooperation and reconciliation of AI to help or supplant human leaders specifically. Man-made brainpower (AI) has been in its presence for over sixty years and has experienced AI winters and springs. The paper at first gives a point of view on the recorded setting of AI through the significant papers circulated in the International Journal of Information Management (IJIM). It by then discussions about AI for dynamic all things considered and the specific issues with respect to the collaboration and coordination of AI to help or replace human bosses explicitly. To drive research on the usage of AI for dynamic in the hour of Big Data. The paper offers twelve investigation proposals for IS masters similar to determined and theoretical unforeseen development, AI advancement human affiliation, and AI execution.

Phillips-Wren, Gloria and Ichalkaranje, Nikhil and Jain, Lakhmi (2008): The goal of this investigation was to uncover the utilization of Intelligent Decision emotionally supportive network in human dynamic with the assistance of man-made reasoning, data innovation, and framework designing. This investigation contains the impacts from unmistakable analysts in the field, starting with the establishment of human dynamics and the unpredictability of the human psychological framework. This writing speaks to the human and man-made consciousness, overview computational knowledge, present sober-minded frameworks, and examine future patterns. Further, this examination clarifies the wise dynamic and its extension and employments. This examination shows the upsides of organization-driven conditions that can convey innovation. Correspondence and coordination between dissipated systems can pass on in the nick of time data, progressing planning, agreeable circumstances, and globally ground-breaking information to a human chief. All the while, man-caused intellectual competence methodologies have shown that they have grown sufficiently to give computational assistance to individuals in sensible applications.

Dan Sincavage: This investigation clarifies the few employments of AI as in the field of advertising, client relationship the executives, and proposal making. This examination makes it ready for analyst exploration. This gives a solid column to the analyst's investigation.

Prior to the resurgence of AI and its unavoidable business application, overseers have expected to rely upon clashing and insufficient data. With mechanized thinking, they have data-based models and reenactments to go to. As shown by PwC's Rao, endless outcome exhibiting is one of the forward jumps in the current AI systems. He rehashes: "There is a huge opportunity to use AI in a wide scope of dynamic" Today's AI structures start from zero and feed on an ordinary eating routine of enormous data. This is broadened knowledge, in actuality, which unavoidably gives authorities present-day models as an explanation behind their dynamic. There are a couple of AI applications that improve dynamic cut-off points. Here are some of them: Marketing Decision-Making with AI-There are various complexities to each advertising choice. One has to know and understand client needs and needs and

change things to these necessities and needs. In like way, having a nice handle of changing buyer lead is critical to making the best-displaying decisions, in the short-and since quite a while. Through a Decision Support System, your man-settled on cognizance structure can reinforce decisions through continuous and present-day data gathering, envisioning, and example assessment.

Client Relationship Management (CRM): Artificial insight inside CRM structures engages its many motorized limits, for instance, contact the board, data recording, and assessments and lead situating. Reproduced knowledge's buyer persona showing can similarly give you a desire for a customer's lifetime regard. Arrangements and advancing gatherings can work even more gainfully through these features.

Suggestion System-Recommendation structures were first executed in music content objections. This has since been contacted in different endeavors. The AI system learns a customer's substance tendencies and pushes content that fits those tendencies. This can help with decreasing the skip rate. In like way, we can use the information learned by our AI to improve zeroed in on content.

Alaisawi, Salem and Khalifa, Salem (2020): This investigation clarifies information mining. This uncovers information mining is a hack cleave field. Information mining pulls in considerations and resources various requests, alongside AI, measurements, information examination, unrivaled enrolling, and business. The foundations of all data getting ready strategies, in any case, are in number shuffling and number-crunching. Data planning techniques are wont to see topics, structure or consistencies and singularities in huge and creating datasets. Counterfeit neural framework ANN is a gross unraveling of certified frameworks of neurons. The perspective of neural framework that Data mining and huge data could be another and slice divide creating field. It attracts considerations and resources different controls, alongside AI, estimations, information assessment, predominant enlisting, and business. This explains the dynamic, flexible, and hack slice propelling nature of the data mining discipline. Despite the fact that there's a wide accord that the hypothetical target of information mining is to discover new and obliging data in databases, this can be any spot the arrangement closes, and the recommendations of achieving this goal are as jumper seas the organizations contributive.

AI IN IT SECTOR

Jun Liu Huihong Chang Jeffery (2020): This paper shows the AI impact on technological innovations.Their analysis will show how AI's mechanism will affect technological innovations and promote and accelerate knowledge creation and technology, also increasing the R&D and technical investment. Results indicated that under the controlled conditions, AI significantly promotes technological innovations.

AI IN MEDICAL SECTOR

David P. Stonko (2020): This will include Artificial intelligence in the trauma system. They will discuss the potential system of AI in local and regional trauma centers. ANN will be used to predict the trauma admission volume and acuity in the single verse multicenter model of the trauma center. They will face certain types of knowledge and technology gaps during the ANN

assessment. Results show that the trauma will have a large and data-rich clinical environment so that AI will improve access to quality of care in a regional and local trauma center.

Dnyaneshwar Kalyane, Gaurav Sanap, Snehal Shenoy (2020): This research defines the use of AI in the pharmaceutical sector and the healthcare system. It shows the benefits of AI in the sector like drug discovery, continuous manufacturing, quality control, dosage design, and many things in the pharmacy sector. It uses the neural network tool for robotics and Nano medicine.

Adriana Albu, Loredana Mihaela Stanciu (2015): This research tells us about the benefits of using artificial intelligence in medical prediction. Predictions are very important in medicine. AI will support decision-making in medicine life. The test data will perform on the two domain systems that develop a decisional system for medical prediction. Results show that the limit between AI and humans is difficult, but the automated systems are helpful for any medical field suggestion.

Aryan Chaudhary, Saikat Mukhopadhyay (2020): This paper shows the use of artificial intelligence in the health sector because AI has the ability to perform cognitive functions such as learning, reasoning, perceiving, and problem-solving. The test data will perform that providing early diagnosis and treatment recommendations are more challenging for the human being, but it will help with the AI domain in decision making.

Nigel Whittle (2018): The future impact of artificial intelligence on medical practice will show here. The work discussed how AI could be used in medical applications - like medical imaging, cancer diagnosis, detection of intracranial bleeding, and many more diseases.

AI IN SMART STRUCTURE

Mohd Suhairil Meon et al. (2014): In this case study, three cases have been identified for optimization of structure using neural network (NN), and it is based on feed-forward back propagation neural network. Different load cases of simple 2D frame structure are used to check whether the neural network could predict exact solution or not in all the three frames loading variation are different and check the data for deflection at one node only, and the performance was measured based on the value of mean square error. The higher mean square error indicates the poor performance of the neural network.

Marijana Lazarevska et al. (2014): This paper shows the use of artificial neural networks in solving various engineering problems that cannot be solved using traditional and statistical methods. It can memorize, collect, analyze, and process a large number of data gained from some experiments of numerical analysis. It was using the concept of artificial neural network and the results of performed numerical analysis as input parameters, the prediction model for defining the fire resistance of RC column incorporated in walls. The basic concept of neural network and fuzzy logic and genetic algorithms deals with the group of symbolic methods and data processing that can be used for soft computing.

Farshad Khorrami and I J Zeinoun (1994): Presented the adaptive control scheme based on fuzzy logic and its application to smart structures. The objective of this to attain an adaptive controller that retains the performance of a closed-loop system under a large

parameter. This controller is based on a functional fuzzy model where the consequents are a crisp function of states and inputs, and possibly their past values, and the success of the control design depends heavily on the number of input fuzzy partitions specified and on the membership function chosen. There exist numerous mathematical criteria that help in evaluating the effectiveness of fuzzy controllers also experimental setup and modeling should be performed. And different techniques are used for control design and experimental results.

Yajun Lua et al. (2018): Presented the vibration control of hoop truss structure using fuzzy logic algorithm uses a hoop satellite antenna and test structure. Firstly, the design and modeling of hoop truss structure should take place, and then active vibration control of system occur where two PBAs are separately installed on two supporting rods near the fixed end the are 103 rods in the truss structure. Fuzzy logic algorithms employ if-then rules that can be used to correlate input and output. After modeling, simulation of the controlled system and experimental setup should be done. This includes the lab view system. This shows that displacements of hoop truss have a similar decaying tendency in the experiments and simulation using the proposed active control method. By comparison, the control effects of experiments were higher than those of simulation.

T. Buhl et al. (2004): In his paper, the shape optimization of the cover plate for the roof structure and a systematic optimization method to find the shape of the cover plate for roof structure has been presented. The shape of each cover plate is described in terms of perpendicular distance from a predefined center line and no symmetry in the system was assumed. The sensitiveness of the gap area and overlap area and the inverse of the uncovered area were obtained by finite differences and showed that the uncovered area is maximized when the structure is fully opened.

AI IN ALL BUSINESS SETUP

Li Yawen, Jiang Weifeng (2018): This paper included different applications of artificial intelligence technologies in several domains of business administration. Finance, retail industry, manufacturing industry, and enterprise management are all included. By summarizing all the existing challenges, we conclude that the rapid development of artificial intelligence will show its great impact on more fields. Artificial intelligence, including neural networks, deep learning, and machine learning, has made numerous progress and offered a new opportunity for academic research and applications in many fields, especially for business activities and firm development.

Results of this research will show the future scope of AI in decision making.

AI IN BANKING

Subhashini Sundaram (2019): This paper reviewed the uses of artificial intelligence in finances and banking that how does AI will reduce s the risk, increase s opportunities for customers and provide s the greatest level of value in the banking sector.

They will include examples and survey the results of past data on how the AI will digitize, database system, block chains, personalization, digital wallets, voice assistant, and customer support systems. After reading their results, we can say that the three are so much scope of AI in banking and finance in the upcoming years.

Marina Ryzhkove, Ekaterina sobaleva, Anastasia Sazonova (2020): This research showed how does Artificial Intelligence will help consumer's perception in the banking sectors. It included cases of AI solutions marketing and some ideas of brand-new banking AI-based services. Despite the rapid spreading of AI across the different spheres, its efficiency is based primarily on consumers` attitude and loyalty to this technology.

 They use AI solutions both at work and in everyday life. The emerging fears are associated with possible technical failure, unauthorized transmission of personal data, lack of privacy, and unexpected consequences of AI implementation. However, in general, experts understand that the future of the financial sector is connected with this technology. According to Sberbank employees, consumers tend to demonstrate a certain level of mistrust to AI, which could result from a misunderstanding of how this technology works and its impact on their ways of life. Our research shows that Russian businesses and consumers perceive AI in a positive light. Sberbank specialists have a positive attitude to the AI implementation in their work, consider these solutions as assistance in performing routine operations, and are not afraid of dismissals.

AI IN AGRICULTURE

Dipankar Saha, Anurag Saxena, Yruptimayee Sune (2020): The researcher discussed the use of Artificial intelligence for Indian agriculture because we will know that agriculture is the backbone of the Indian economy. In agriculture, there is a quick adaptation to AI in its various farming techniques where Artificial Intelligence (AI) is one of the key areas of research in computer science with its rapid technological advancement and vast area of application. AI is becoming relevant very rapidly because of its robust applicability in the problems particularly that cannot be solved well by humans. Artificial intelligence technology is supporting different sectors in agriculture to boost productivity and efficiency. AI solutions are assisting in overcoming the traditional challenges in every field. Intervening AI in agriculture is helping farmers to improve their farming efficiency and reduce hostile environmental impacts.

Sunil Kumar (2019): This paper includes the impact of artificial intelligence in irrigation because India is considered an agricultural country where farming and agriculture are the main occupations throughout. With the increase of population, the food demand should increase manifold, thereby the need for advanced agricultural systems.

Agricultural Automation concentrating more on efficient irrigation can be achieved by making use of the latest technologies like Artificial Intelligence and Machine Learning. Arduino and

Raspberry devices can be embedded with moisture and temperature sensors along with the help of Machine Learning algorithms to attain advancement in irrigation. The world is getting advanced in technology. This research will help for the future as well as for Indian agriculture.

OBJECTIVES

- To examine the application of AI in different sectors of business
- To investigate the importance of AI in future
- To search the role of AI in removing the complications in different sector of business

RESEARCH METHODOLOGY

Research methodology is a technique that identifies and analyses the information about selected and specific areas. Research methodology also reveals validity and reliability and critically evaluation of data and whole research. ("LibGuides: Research Support: Research Methodology," 2019). This research uses different types of literature to review. A review of literature provides and supports the whole study. This research is based upon a secondary data collection method and is integrative research.

INCLUSION AND CONCLUSION

Inclusion rules are a collection of predefined attributes used to recognize subjects who will be remembered for an exploration study. This study includes the different prospects of AI in business. Here researcher analyses the function of AI in the IT sector, the Agriculture sector, Medical sector, the Structure, the Transport sector, the Marketing sector, the banking sector, and Decision making in business. The crux of this research is raveling the pivotal role of AI in different sectors of business. This study investigates the review of literature in different fields of business. Here systematic and narrative literature reviews are used with meta-analysis. Research finds that there are lots of uses and prospects in the different business fields due to AI after depth analysis of literature review. AI saves time and cost also. The use of AI opens the door in a different sector. With the use of AI, businesses can boom up, and it balances the economy of the country also.

REFERENCES

1. Alaisawi, Salem & Khalifa, Salem. (2020). Artificial Intelligence in Data Mining and Big Data.
2. Albu, Adriana & STANCIU, Loredana. (2015). Benefits of using artificial intelligence in medical predictions.
3. Buhl, T., Jensen, F. V., & Pellegrino, S. (2004). Shape optimization of cover plates for retractable roof structures. Computers & Structures, 82(15–16), 1227–1236.
4. Dan Sincavage (Blog) How Artificial Intelligence will Change Decision-Making for Businesses. (2017, December 19).
5. Dipankar saha, Anurag saxena, truptimayee sune (2020) In book: Souvenir: 19 National Convention – Artificial Intelligence in Agriculture: Indian Perspective

6. Dnyaneshwar Kalyane, Gaurav Sanap, Debleena Paul, Snehal Shenoy, Neelima Anup, Suryanarayana Polaka, Vishakha Tambe, Rakesh K. Tekade,Chapter 3 - Artificial intelligence in the pharmaceutical sector: current scene and future prospect,In Advances in Pharmaceutical Product Development and Research,The Future of Pharmaceutical Product Development and Research,Academic Press,2020,Pages 73-107

7. Jun Liu, Huihong Chang, Jeffrey Yi-Lin Forrest, Baohua Yang,Influence of artificial intelligence on technological innovation: Evidence from the panel data of china's manufacturing sectors,Technological Forecasting and Social Change,Volume 158,2020,

8. Kalyane, D., Sanap, G., Paul, D., Shenoy, S., Anup, N., Polaka, S., Tekade, R. K. (2020). Artificial intelligence in the pharmaceutical sector: current scene and future prospect. *The Future of Pharmaceutical Product Development and Research*, 73–107.

9. Kumar, S. 2019. Artificial Intelligence in Indian Irrigation. International Journal of Scientific Research in Computer Science, Engineering and Information Technology. (Hyd. 2019), 215–219.

10. Li Yawen, Jiang weifeng (2018) February 2019 Conference: National conference on Emerging Trends of Artificial Intelligence in Business Management.

11. LibGuides: Research Support: Research Methodology. (2019).

12. Liu, J., Chang, H., Forrest, J. Y.-L., & Yang, B. (2020). Influence of artificial intelligence on technological innovation: Evidence from the panel data of china's manufacturing sectors. Technological Forecasting and Social Change, *158*, 120142.

13. Luo, Y., Zhang, X., Zhang, Y., Qu, Y., Xu, M., Fu, K., & Ye, L. (2018). Active vibration control of a hoop truss structure with piezoelectric bending actuators based on a fuzzy logic algorithm. Smart Materials and Structures, 27(8), 085030.

14. Meon, M. S., Anuar, M. A., Ramli, M. H. M., Kuntjoro, W., & Muhammad, Z. (2012). Frame Optimization using Neural Network. International Journal on Advanced Science, Engineering and Information Technology, 2(1), 28.

15. Moreno, L. (2019, August28). [Review of *10 impressive examples of AI in marketing*].

16. Phillips-Wren, Gloria & Ichalkaranje, Nikhil & Jain, Lakhmi. (2008). Intelligent Decision Making: An AI-Based Approach.

17. Raghav Bharadwaj. (2019, February 10). AI in Transportation – Current and Future Business-Use Applications

18. Ryzhkova, M., Soboleva, E., Sazonova, A., & Chikov, M. (2020). Consumers' Perception of Artificial Intelligence in Banking Sector.

19. Sadek, A. W. (2007). Artificial intelligence applications in transportation. *Transportation Research Circular*, 1-7.

20. Scribbr. (2020). Writing a Research Paper Introduction |.

21. Stonko, D. P., Guillamondegui, O. D., Fischer, P. E., & Dennis, B. M. (2020). Artificial intelligence in trauma systems. Surgery.

22. Whittle, N. (2018). The Future Impact of Artificial Intelligence on Medical Practice.

23. Zeinoun, I. J., & Khorrami, F. (1994). An adaptive control scheme based on fuzzy logic and its application to smart structures. Smart Materials and Structures, 3(3), 266–276.

24. Bagchi, Chitra., Mohanty, Sagyan Sagarika. (2020, December). Marketing in the 21st Century. In Perspectives on Business Management & Economics (Vol. III, pp. 57-70). Retrieved from http://www.pbme.in/papers/77.pdf

NEW APPROACHES OF HRIS DURING COVID-19 TO TACKLE THE PROBLEM ARISING IN THE EDUCATION SECTOR

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ABSTRACT

The pandemic has affected every sector throughout worldwide and the core sector affected that has unfavourably affected has been Education Sector. The education area moving to online methodology the main gizmo that would help would be Human Resource Information System (HRIS). Education sector has to have its inclusive Human Resource function online to function in the post COVID times. With certain changes like office timings, work from home being the new approach and concept of working, there is a huge enhancement in the use of technology which will lead the new operational techniques and organizational goals. In view of the economic slowdown there will be a shift in working traditions and ways of working like usage of technology, cost saving, travel expenses and employee productivity and engagement. HRIS plays very active role via IT and helps to decrease bottlenecks in education sector. HRIS provide active platform for teachers that save the job of the teachers and future of students also. There are lots of approaches adopted by HRIS to handle the problem arisen in education sector during COVID-19. HRIS enable improvement in traditional processes and enhance strategic decision making. It allocates all HR activities to be processed online. The crux of this paper is to highlight the approaches followed by HRIS to remove problems in education sector during COVID-19.

Sample size is taken by researcher is 80 over 100 population size. Primary and secondary data are used for data collection. Questionnaires are used for primary data collection method.

INTRODUCTION

COVID-19 has forced the education sector to use a combination of an offline and online medium for its existence, highlighting the need for Human Resource Information Systems (HRIS) to be more vital. This global change requires management to be adaptive to various tools that would boost their institution's efficiency. HRIS has significantly developed since commenced more than 50 years back. They have been much advanced and developed further in comparison to converting paper records to a computerized database. At present, HRIS is competent in managing the entire HR task online. The structure is in the shape of software, i.e., an online result of capturing and tracking all HR actions like staffing, payroll management, and performance assessment. HRIS is supposed to provide the potential to plan, organize and control HR costs, accomplish better efficiency and excellence in HR decision-making, and progress employee and managerial efficiency and effectiveness more efficiently. In the majority, an HRIS leads to an increase in competency when it comes to decision-making. As the education sector now has to combine online and offline working habits, HRIS would be more significant as it would track all HR purposes effortless and in real-time. The management of educational institutes in different geographical bases can synchronize and track the different human resources methods without difficulty. Accomplishment and adapting HRIS lead to the organization successfully storing employee information more firmly and precisely. It will also assist the institutes in their development as each testimony would be precise and current. This results in decision-making becoming well-organized in the educational institutions with the introduction of HRIS as the decisions would be through on precise information.

The reporting leads to a fast process without any time interval and helps make the right decisions. The effectiveness and value, i.e., the superiority of an HRIS, will facilitate an institution to summarize its staff like their potency and flaw. The HRIS would allow the institution to appropriately know the people in the organization and how many additional recruits they would require, which would show the improvement of enhanced recruitment policies, promotion, and training. In this way, eligible people will be in the correct place at accurate time-quality human resource and personnel management. HRIS moves from segregation to incorporation and facilitates a holistic approach to education.

NEW APPROACHES OF HRIS

Branch of Education, Patna Women's College, and Internal Quality Assurance Cell (IQAC) are commonly coordinating a worldwide online seminar on 'Employment of E-getting the hang of during Lockdown: Academic Challenges and the Road Ahead.' The online class is a

two-day long event and will close on Saturday, May 9. Nearly 600 workers from the public, worldwide schools, and universities joined the online class in every way that really matters. The online class is being figured out when each and every enlightening foundation is taking the e-adapting course to complete the timetable due to COVID lockdown.

The COVID pandemic has disturbed associations and made HR chiefs ponder their function as they change in accordance with social removing rehearses and another workplace that they may never have envisioned. To forestall the spread of the Covid, organizations have changed to a distant work model at a rate and scale they have never experienced. As vis-à-vis coordinated effort is supplanted with email and videoconferencing, HR supervisors need to accomplish troublesome work under troublesome conditions. (Lewis, N. 2020, April 22).

The HRIS adopts some critical approaches to tackle the situation arising during and post COVID-19.

- Change old Strategy and policy
- More and more use of IT
- Focus and concentrate on saving time and cost
- Concentrate upon home-based work
- Development of new and easy to use software

There are various tactics embraced by the HRIS that will help in the educational system and can fight against a worse situation that is created during and after post-COVID.

Human Resource Information System (HRIS) can be characterized as a product or online arrangement that is utilized for information passage, information following, and the information the executives of all HR tasks of an association. With the universe of work in a condition of ceaseless, advanced motion, HR frameworks and cycles need to adjust to a world that is datafied, innovation-driven, and individuals-driven. (What Is HRIS? System, Model, and Application. 2019). Some five HR viewpoints, or procedures, that can profit your workers and the organization's main concern. ("HR Strategies for a Post-COVID-19 Workplace - DBT," 2020)

- Employee personalization
- A focus on wellness
- Workplace flexibility
- Employee upskilling
- AI-driven technology

AI-based technology helps in the educational sector for both teachers and students. In the education sector, it helps in different ways. HRIS acts smartly for the education system. It provides an IT-based system for education that facilitates teachers and students also.

HOW DO THE FUTURE ORGANIZATIONS RESEMBLE?

There are various ways adopted by the organization for future survival after COVID-19.

All these means and methods are handled easily with the help of HRIS. HRIS paves the way to fight against the post-COVID situation. The organization adopts some important strategies and policies as:

- Working hours, areas and even the work game plans to turn out to be more liquid
- Remote attempting to be a basic piece of each association
- The ubiquity of legally binding positions and consultants to develop
- Focus on learning and improvement to increment to prepare representatives future. (www.EthrWorld.com, n.d.)

PROBLEMS IN THE EDUCATION SECTOR DURING COVID-19

- Lack of classes
- Poor attendance
- Salary cutting of teachers
- Use of Data and android
- Increase mental frustration
- Increase in unemployment
- Increase poverty

Solution of problems arises in the education sector due to COVID-19

Any software cannot easily tackle the unavoidable situation as HRIS. But some positive efforts are made by HRIS that handle the situation arising during the pandemic and after the pandemic in some extent. HRIS manages and provides the IT-based platform to tackle the situation of regular classes. It provides some small data-based applications for managing the classes. As well -known the fact that pandemic ceases the outgoing activity that increases mental frustration in students, teachers and other sector employees also. It also increases the unemployment level, but HRIS software provides different applications that cope with the critical situation arisen in students and teachers also. When unemployment increases its naturally increases poverty. Due to the positive effort of HRIS software unemployment level is decreases and it lacks the poverty level

LITERATURE REVIEW

Sethi, R. (2020): HRIS has been outlined as integrated systems used to attain, organize, recover, gather, store, analyze and provide information regarding the organization's human resources. It is an information arrangement and software that creates data compilation and tracking simple for humans. HRIS, an application of Management Information Systems, on the whole gather and tracks the data related to the human resources of the organization.

The approach of storing employee data has been developed and created compared to early trends where the data concerning employees were stored manually in files that acquired maximum storage space resulting to problems in the tracking of the preceding information. But with the introduction to HRIS and digital platform it has incorporated all the information related to human resources like employee details, payroll, and performance tracking etc.

under the distinct platform. As the data at present is stored electronically, it has reduced the amount of documents and storage, resulting to cost reduction, physical hard work, and making an individual's job easy.

The study done was an exploratory analysis to figure additional understanding into the Human Resource Information System (HRIS). Accordingly, a qualitative analysis design was used where this subjective study gathers well-off information concerning the field so as to inductively bring into a new knowledge base.

HRIS provides correct information at an accurate time, which helps the top management at the institution implement planned decisions. HRIS totally changes the way of working of the organization. The research help further the objective of HRIS creating the work of the HR department of the institute effortless and less superfluous, resulting in making more planned decisions. Also, there is a lot of HR behavior that is high-handedly done through computerization. The HRIS helps build the HR department and shows how many resources are getting the liberty to do extra calculated work.

HRIS assembles data and facts, distributes among various functional divisions within the institutions, like a relational database arranged for different stakeholders. HRIS is a technique for corresponding intra institution. It signifies learning through opinion as individual functioning on the HRIS constantly learns from the organization's activities and guides further to take an improved decision on the basis of past errors. The research develops the theory that institutes must not evaluate HRIS as expenditure but as a strategic venture for the prospect of the organization. HRIS mechanism may be costly initially, but the investment return is high as subsequent to the preliminary setting up amount it requires as maintenance expenditure. Also, other crises would be opposed to from the employees, and in this regard, literature proposes that an institute wishes to innovate.

To conclude, the research conducted on the subject is vital as it deals with the important topic to be analyzed going forward as there will be a lot of changes coming up in the future where new ways and ideas will definitely take to the next level where such study will be a ladder for further research.

Sanjay S. (2020): In the current scenario the mankind is living in these tough times of COVID where every individual is following the rules of social distancing to break the impact of the virus amongst each other in every sphere. The people have sheltered themselves within their places. Somewhat the persons have been persuaded to toil with personality which has been an exigent method to oneself together sensitively and psychologically. The HR Department is employee-centric. When people have been secluded or have been put to task in the sticks, it is the role of HR to strike for their upliftment.

Agile Wow meet up cluster notioned concerning dialogues with HR people on how they are administrating this state of affairs, and it was stunning to note diverse plans in progress by HR group. This is a joint record from every member without sequence. Members and business entities have been kept in non-disclosure. As all the members and the organizing group associates being sorted - Amit Singh and Dinesh Saini.

R. Kumar (2020): Though the spoil to the division is analogous to the spoil to all divisions globally, it is probable that by way of some cautious preparation, we might be able to minimize the long-standing consequences of this long-drawn-out shutdown.

The Delhi Government had mooted an appealing proposal to offer data packages to the undergraduates of Class X and XII. Despite the fact that this is possible to have definite exceptional challenges – predominantly the usage of data imperfectly for objectives other than learning – smart machinery resolution can be established. Employ of the internet can be limited to precise application set up by the regime. Likewise, a further appealing plan has been in mechanism deployed in the State of Uttar Pradesh which is scheduling to use Doordarshan, All India Radio, and community radio to encourage audio-based education amongst students who have non-access to the internet.

RESEARCH OBJECTIVES

1. To review HRIS in the education system during the COVID-19 pandemic
2. To investigate the active role of HRIS to tackle the problems that arise in the education sector in pandemic and post-pandemic

RESEARCH METHODOLOGY

Research methodology is the way through which researchers need to direct their exploration. It shows the way through which these researchers detail their concern and target and present their outcome from the information got during the examination time frame. This exploration plan and system section likewise show how the examination result toward the end will be acquired in accordance with meeting the goal of the investigation. (Kassu Jilcha Sileyew, 2019)

As contemplated by Fraenkel and Warren, the populace alludes to the total arrangement of people (subjects or occasions) having regular qualities in which the specialist is intrigued. The number of inhabitants in the examination was resolved dependent on an irregular testing framework.

Research is based upon secondary and primary data collection methods. A structured questionnaire is used for the primary data collection method. The population size is taken as 100, and the sample size is 80.

SURVEY ANALYSIS

1. Is HRIS play an effective role in this pandemic situation of COVID-19

S.No	HRIS plays an effective role	Frequency	Percentage
A	YES	72	90
B	NO	8	10

Source: Author compilation
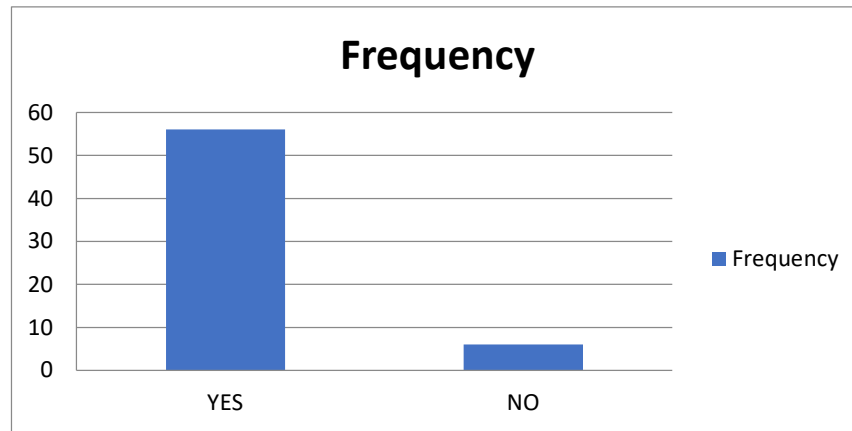
Source: Author compilation

Among the respond of 80 persons it is found that 72 persons are respond to YES and 8 persons are respond to NO regarding HRIS playing an effective role in the COVID pandemic situation.

2. Is It reduces the unemployment in COVID-19

S.No	HRIS reduce Unemployment	Frequency	Percentage
A	YES	56	70
B	NO	6	7.5
C	Cannot say	18	22.5

Source: Author compilation
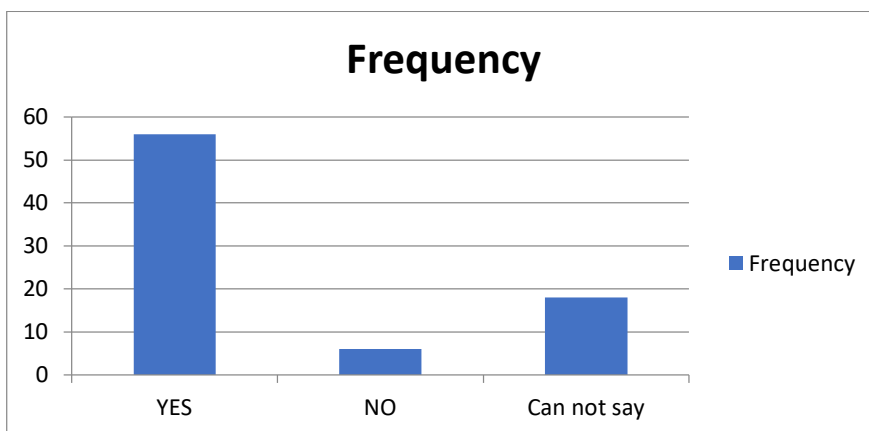
Source: Author compilation

From the response of 80 persons, it is found that 56 persons are responding to YES and 6 persons are respond to NO, and 18 persons are not able to say something regarding that Human resource information system helps in reducing the unemployment during the COVID situation.

3. Due to the management of HRIS, transport expenses of institution can be reduced because of online class

S.No	Response	Frequency	Percentage
1	Strongly Agree	72	90
2	Agree	7	8.75
3	Disagree	1	1.25
4	Strongly disagree	0	0
5	Neutral	0	0

Source: Author compilation
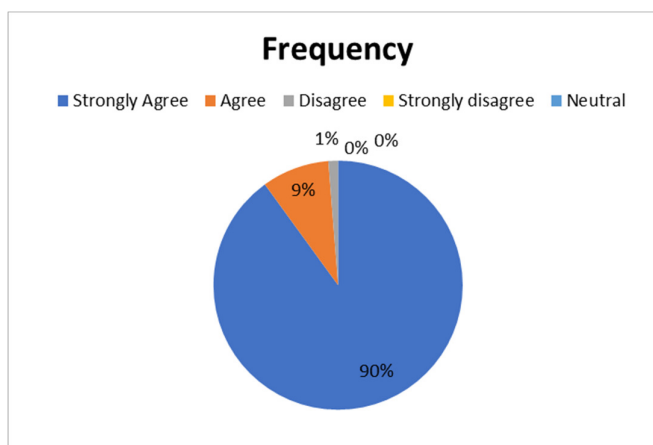
Source: Author compilation

This analysis is based on the Likert analysis. Among 80 persons, 72 persons strongly agree, seven persons only agree, one person disagrees, none strongly disagree, and none are neutral regarding the management of HRIS, the transport expenses of the private institution become minimized too much.

4. It freezes the hiring process of new employee in the educational institution.

S.No	Response	Frequency	Percentage
1	Strongly Agree	67	83.75
2	Agree	7	8.75
3	Disagree	4	5
4	Strongly disagree	2	2.5
5	Neutral	0	0

Source: Author compilation

Source: Author compilation

This analysis is based on the Likert analysis in which among 80 persons, 72 persons strongly agree, 7 persons only agree, 1 persons disagree, 0 persons strongly disagree and only no persons are neutral regarding due to the management of HRIS the hiring process in the private educational institute become frizzed.

5. Due to HRIS management it is possible to stay In touch with the student during this pandemic situation of COVID.

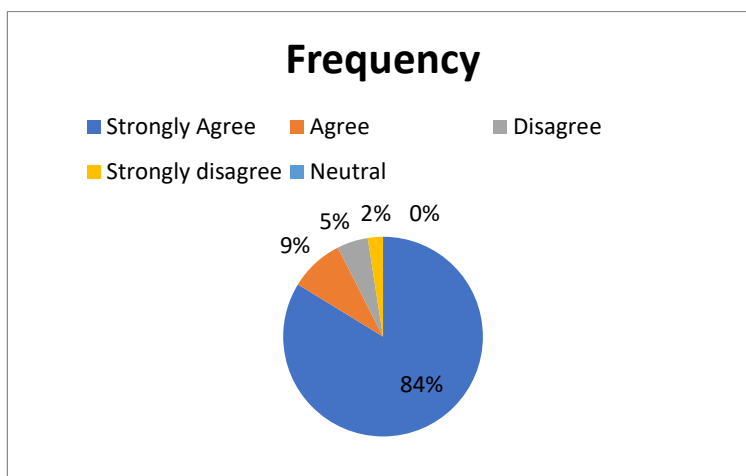| S.No	Response	Frequency	Percentage
A	Strongly Agree	72	90
B	Agree	7	8.75
C	Strongly disagree	1	1.25
D	Disagree	0	0
E	Neutral	0	0

Source: Author compilation
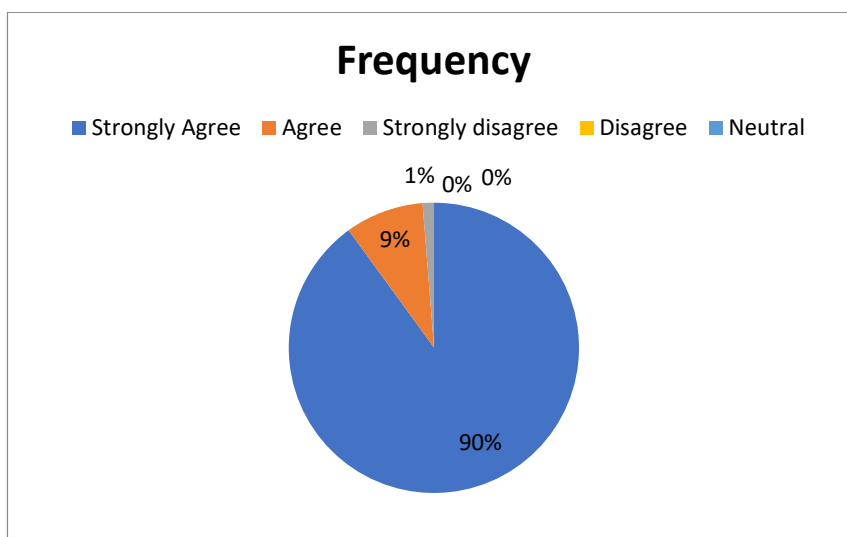
Source: Author compilation

This analysis is based on the Likert analysis in which among 80 persons, 72 persons strongly agree, seven persons only agree, one person disagreed, and none strongly disagreed, and none are neutral regarding due to the management of HRIS it is possible for the faculty to remain to stay in touch with the student.

6. With the help of HRIS, it is possible to track employee productivity or performance

S.No	HRIS track the productivity of the employee	Frequency	Percentage
A	YES	78	97.5
B	NO	2	2.5

Source: Author compilation

HRIS track productivity of employee

Source: Author compilation

Among the responses of 80 persons, it is found that 78 persons responded to YES and 2 persons responded to NO regarding HRIS playing an effective role in tracking employee productivity of the private institution during the COVID situation.

7. COVID safety become effective (Work from home) because of HRIS management.

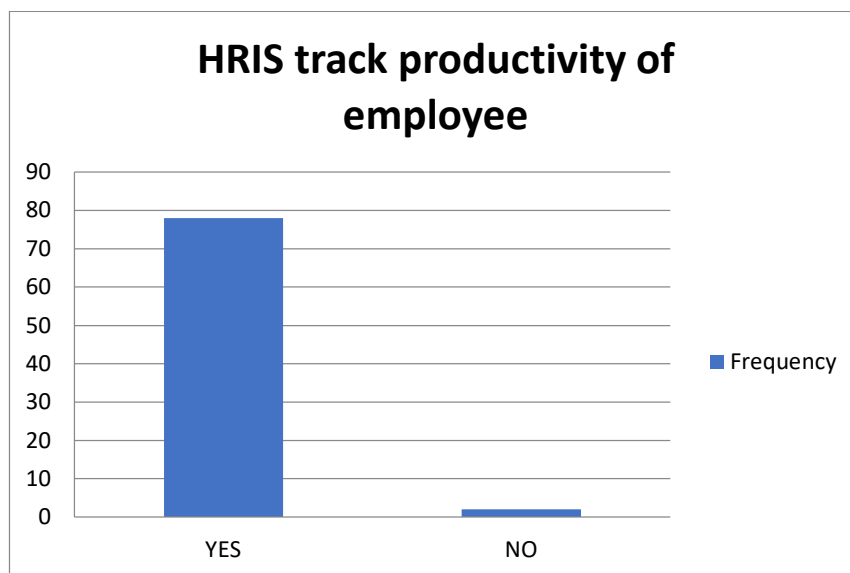| S.No	Response	Frequency	Percentage
A	Strongly Agree	72	90
B	Agree	5	6.25
C	Disagree	1	1.25
D	Strongly disagree	2	2.5
E	Neutral	0	0

Source: Author compilation

Source: Author compilation

This analysis is based on the Likert analysis in which among 80 persons, 72 persons strongly agree, five persons only agree, one person disagrees, two persons strongly disagree, and only no persons are neutral regarding due to the management of HRIS it is possible to become safe by providing the facility of work from home.

8. Nowadays, Webinar is a meeting medium of employees, which is only possible due to the HRIS.

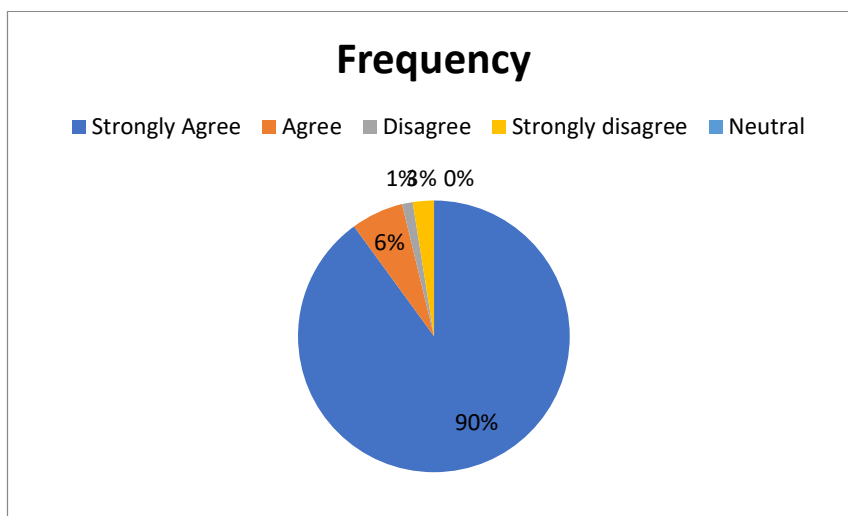| S.No	HRIS provides Webinar for meeting	Frequency	Percentage
A	YES	79	98.75
B	NO	1	1.25

Source: Author compilation
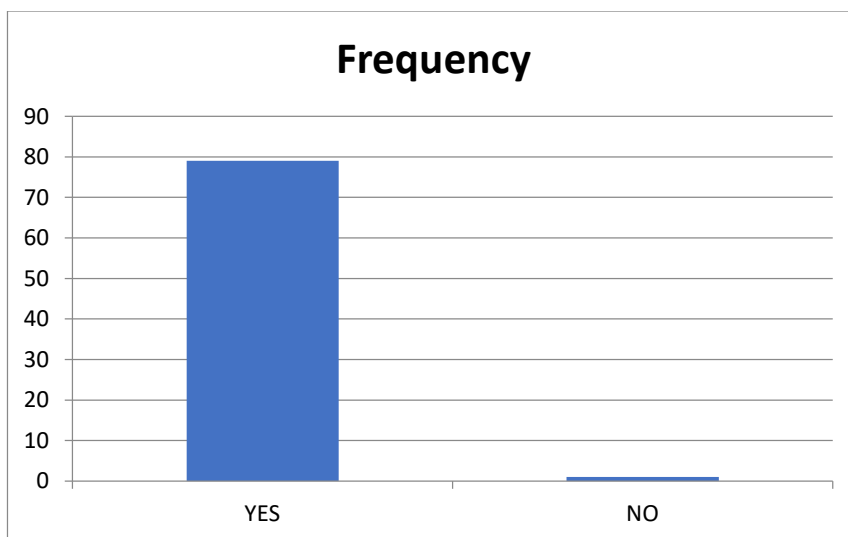
Source: Author compilation

Among the responses of 80 persons, it is found that 79 persons respond to YES and one person respond to NO regarding that Human resource information system play an effective role in providing the facility of a webinar as a meeting medium of the employee in the private institution.

9. HRIS generates new ideas of handling of these types of pandemic situations.

S.No	HRIS provides new Ideas	Frequency	Percentage
A	YES	67	83.75
B	NO	3	3.75
C	Can not say	10	12.5

Source: Author compilation

Source: Author compilation

Among the responses of 80 persons, it is found that 67 persons responded to YES and 3 persons responded NO, and 10 persons are not able to say something regarding that Human resource information system play an effective role in providing the new idea to handle these types of problems.
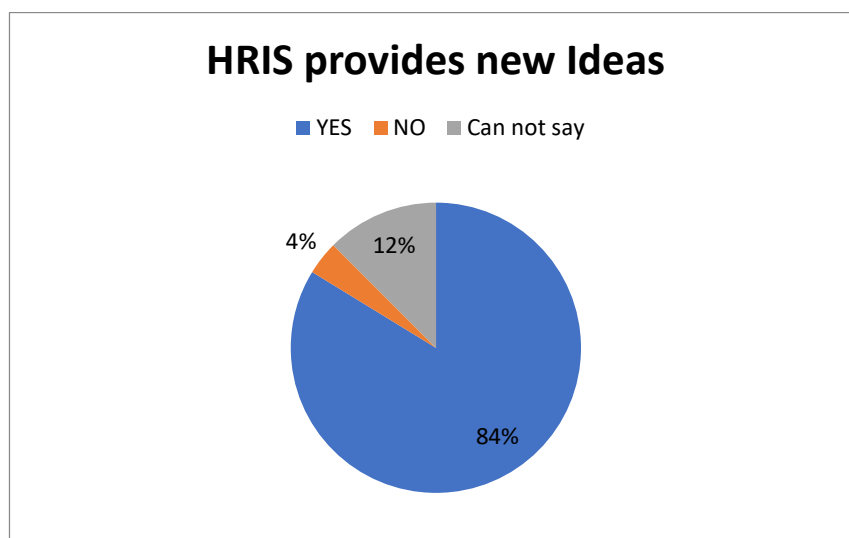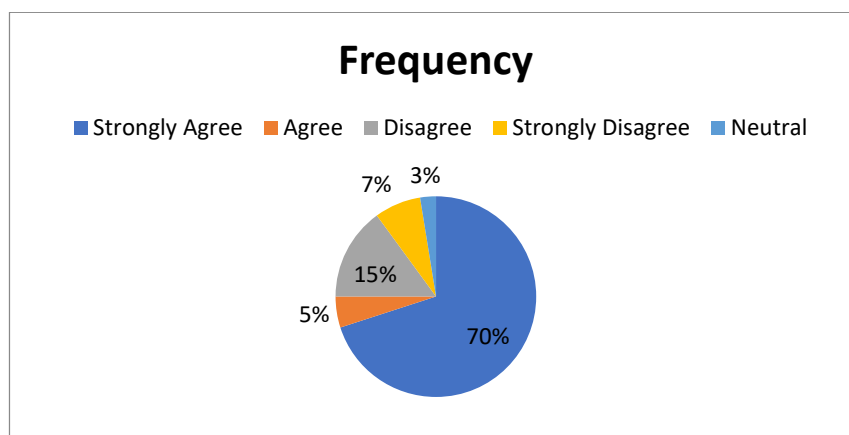
10. Due to the management of HRIS, cost-saving of the institution also increases such as electricity, Security, internet charges etc

S.No	Response	Frequency	Percentage
A	Strongly Agree	56	70
B	Agree	4	5
C	Disagree	12	15
D	Strongly Disagree	6	7.5
E	Neutral	2	2.5

Source: Author compilation

Source: Author compilation

This analysis is based on the Likert analysis in which among 80 persons, 56 persons strongly agree, four persons only agree, 12 persons disagree, six persons strongly disagree, and only 2 persons are neutral regarding due to the management of HRIS, the running cost of the institution also saved such as electricity, bus, internet charges etc.

CONCLUSION

This chapter addresses and highlights the importance of HRIS during the COVID-19 pandemic 2020. An attempt is made to reveal the different problem arises during and after pandemic and how HRIS can handle it. HRIS provides a different platform to tackle the problems that arise in the pandemic environment. After analyzing, most of the people agreed and think that HRIS is a very good platform to manage the pandemic crisis in the education sector. Random sampling is taken out, and the sample size is 80, which is efficient to interpret the result. The frequency distribution technique is chosen to analyze data and for the fulfillment of objectives.

REFERENCES

1. Academic guides: Writing a paper: Conclusions. (2020).
2. O'Leary, Z 2010, The essential guide to doing your research project, 2nd edn, Sage Publications, Thousand Oaks, Calif.
3. Fraenkel FJ, Warren NE. How to Design and Evaluate Research in Education. 4th ed. New York: McGraw-Hill; 2002
4. HR Strategies for a Post-COVID-19 Workplace - DBT. (2020, April 2). Retrieved from Delaware Business Times
5. Introduction to literature reviews. (2018, October).
6. Kassu Jilcha Sileyew (August 7th 2019). Research Design and Methodology, Cyberspace, Evon Abu-Taieh, Abdelkrim El Mouatasim and Issam H. Al Hadid, IntechOpen,
7. Kumar Rohit (2020, April 24). Lockdown is disrupting a generation's
8. Lewis, N. (2020, April 22). HR Managers Rethink Their Role During the Coronavirus Pandemic
9. Sanjay S. (2020, April 18). HR in action during the lockdown period.
10. Scrum.org. (n.d.). HR in Action during the Lockdown period.
11. Sethi, R. (2020). HRIS and its Importance in Education Sector Post-COVID-19 World
12. The Wire. (n.d.). Lockdown Is Disrupting a Generation's Education. What Can Be Done?
13. What Is HRIS? System, Model, and Application. (2019)
14. www.EthrWorld.com. (n.d.). HR to play a bigger role during and after COVID-19 - EthrWorld.

GREEN BANKING PRACTICES IN INDIA DURING COVID-19

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ABSTRACT

Concern for the environment has established a lot of attention in this contemporary state of globalization. Global warming is also becoming a nationwide as well as universal problem, it hampers on ending the natural resources. For the reducing of global warming problem there must be attention on eco-friendly initiatives by all of us. (Dr.GobindaDeka, 2020) Most of the nations have been taking belligerent actions to tackle global warming and climate change. Green banking is making technological improvements, operational improvements and changing client habits with efficient and effective use of computers, printers and servers to optimize the use of energy and less usage of paper. Green banking practices helps in encouraging environment-friendly practices and dropping carbon footprint from routine banking activities. Directly & Indirectly these green banking practices helps in encountering carbon foot print, global warming, climate change, fickle weather, floods, droughts, pollution, high greenhouse gas emissions, etc., by environmentally sustainable and socially responsible investments. This paper is an attempt to study the impact of COVID-19 on banking sector in India. Moreover, an effort is made to study the pivotal role of green banking practices during COVID-19 times.

INTRODUCTION

These days, the mode we are thoughtlessly consuming resources on earth, the question arises what we will leave for the upcoming generation (Chanduji & Thakor, 2020). In satisfying our needs, we are unfavorably utilizing the natural resources and freeing lot of wastes and contamination into the environment, which is resulting in natural disasters. If human beings' lifestyle is not going to change, it leads to severe manmade disasters like mainly global warming etc., which are disturbs not only the present generation but also the coming generation.

Global warming is one of the serious aspects to be focussed on by all. (TOI, 2021) This term is used to label the upsurge in global surface temperatures. The term is frequently used interchangeably with 'climate change.' This has, in turn, directed to the liberal shrinkage of the glaciers and polar ice caps, resulting in an upsurge in sea level. One more observed effect has been the distraction of cyclical weather forms and the rising number of fluke natural disasters. The escalation in temperatures has been credited to the build-up of greenhouse gases, such as carbon dioxide and methane, at expressly accelerated levels due to the industrialization of the previous 100 years. A rigorous global effort to counter and alleviate the effects of this marvel has been elusive, with settled nations and developing nations facing off over the respective heights of emission cuts they would have to affect natively. From this paper, I would like to request all the readers to save nature for the present generation and future generations. This paper is also an attempt to bring into the readers notice that the position of our nature.

So, the thought of sustainable development is taking care of the need of the existing generation without conciliatory the needs of the upcoming generation. (Kaimal & Sajoy, 2020) It gives rise to green marketing and then to green banking (K.V & Sudhakar, 2017). It is all about fulfilling wants and looking for a sense of balance among people, the environment, and the economy.

Green Finance or Green Banking refers to diverse financial services and products provided by financial institutions for sustainable development (Asifpervej, 2020) (UNEP FI, 2007).

Green Banking is a Corporate Social Responsibility action to make the society liveable without any extensive harm to the environment. It is needed for the sustainable development of the country. It is dissimilar from traditional banking. It is also called an ethical and sustainable bank that deliberates all the social and environmental factors to protect the environment and save natural resources. Academic interests in this notion have been on the increase since 2011.

Economic activity has begun making an uncertain and irregular recovery from the unique steep waning in the revive of the COVID-19 pandemic. COVID-19 is also one of the human-made disasters. In this state, an approach using a dynamic stochastic general equilibrium (DSGE) model built on New Keynesian foundations offers an unsure and immediate valuation of the likely result of COVID-19 and the consequent lockdown on the Indian economy. COVID-19 and the lockdown can impact the economy through multiple channels.

"The environment and the economy are really both two sides of the same coin. If we cannot sustain the environment, we cannot sustain ourselves". - Wangari Maathai

LITERATURE REVIEW

(Ramasamy, 2020) discussed various factors such as lockdown approach, moratorium, different impacts in banking, financial services, and insurance sector. Further, we have given some recommendations to mitigate the situation so that the financial services can continue with less negative impact, which will help for better services to the customer and minimal revenue loss to the financial organizations.

(Asifpervej, 2020) are aimed to demonstrate an impact of pandemic COVID-19 on the banking and financial sector. India's coronavirus outbreak threatens a years-long clean-up of its financial system, according to the Indian bank. Banks sit at the heart of the economy and provide funding to corporate and individuals. Their stability is crucial to keep the system up and to run.

(Chanduji & Thakor, 2020) discussed Two implications follow for the future of banking. First, banks will operate in a financial system that is awash with liquidity, and interest rates are extremely low. Second, the government will be a key player in the financial sector, both as a borrower (to fund its deficit) and as a "risk absorber" providing guarantees, back-stops, and more direct fiscal support for borrowers whose businesses and cash flows bear the brunt of the virus. This means that banks will prefer to give loans to borrowers whose cash flows are visible and strong while avoiding borrowers whose cash flows and incomes run the risk of being disrupted. A thumb rule that banks often follow is that size matters. Bigger companies, on average, are less likely to default than smaller ones, and the flight to quality could translate into flight to size. The banking sector's health depends on how soon the economy recovers. All eyes are now on the government's upcoming fiscal stimulus package.

(Lelissa, 2020) discussed the study employed the input-output framework. It has used ten years of historical data from 2010 to 2019 of the aggregate private commercial banks to explore trends and examine the effect of the pandemic on the past critical success factors.5 The result shows that the pandemic affects both the balance sheet and income statement of banks. The effect is shadowed during the current year due to a good performance record all through pre COVID period. The study identified an immediate liquidity need of around Birr 17 billion to private banks so that they can comfortably meet the NBE's liquidity requirement.

(BipashaBarua & Suborna, 2020) his paper utilizes Bangladesh as a case study of an emerging economy and examines the possible impacts of the pandemic on the country's banking sector. Using a state-designed stress testing model, the paper estimates the impacts of the COVID-19 pandemic on three particular dimensions—firm value, capital adequacy, and interest income— under different NPL shock scenarios. Findings suggest that all banks are likely to see a fall in risk-weighted asset values, capital adequacy ratios, and interest income at the individual bank and sectoral levels. The paper offers lessons for other developing and emerging economies similar to Bangladesh.

Bahl, Sarita (2012), conducted an empirical study on "Green Banking – The new strategic imperative" tried to find out the most significant strategies while going ahead with green banking by using Garrett's ranking technique. The researcher found that Carbon footprint reduction by Green building had been given top priority in green banking strategies, and green banking financial products have also been given due weightage. However, Paperless

banking and using mass transportation systems have been rated low as green banking strategies (Lelissa, 2020).

Jha and Bhome (2013), conduct a similar survey as stated above to check and thereby create consumer awareness on Green Banking. Conducting interviews and using specially structured questionnaires for the survey they state certain steps needed in Green Banking. Online Banking, Green Checking Accounts (ATM, Special Touch Screens), Green loans (low rate to those who wish to buy solar equipment) for supporting environment-friendly residential projects, power-saving equipment, Green Credit Cards, Paper Saving Mobile Banking are among few steps suggested by them. Green Banking will ensure an organization's move towards sustainability (BipashaBarua & Suborna, 2020).

Jaggi (2014), studies the initiative by SBI and ICICI on Green Banking. SBI has introduced a Green Channel Counter, no queue banking, enhanced commitment towards achieving carbon neutrality, online money transfer, wind farms. Green Products and Services initiative of ICICI Bank includes insta banking (anytime, anywhere), vehicle finance, and home finance. Moreover, these banks have taken other steps for energy conservation like duplexing (two side printing), recycling, CFLs, carpool etc (BipashaBarua & Suborna, 2020).

(Sahoo et. al., 2016) The present study test for the usage of green banking habits among various age groups. The present study finds that the young generation is more inclined towards green banking products than middle age and senior age groups (above 60 years). The mean score of usage of green banking products among the low age group (15-30) is 26.50, whereas it is just 15 for individuals age above 60. Therefore, the present study finds that there is more of a need to create awareness about green banking product adoption among the middle and senior age groups of individuals than young age people.

(Girmakar & Sudharshan, 2018) reports, this study finds that there is more of a need to create awareness about green banking products acceptance amongst the middle and senior age groups individuals than young age people. Banks need to apply morality of sustainability and responsibility to their business model, strategy, and formulation for products and services, operations, and financing actions and become tougher. By adopting the environmental factors in their lending activities, banks can recover the return from their investments and make the polluting industries become environment friendly.

(Dr.GobindaDeka, 2020) reports, the researcher stated that the major obstacle in Green Banking is the technical issues involved, followed by lack of education. The Paper concluded that green banking clearly has a direct and positive impact on sustainability. The common people are yet to come forward to adhere to these practices due to a lack of awareness. Therefore, banks must make their customers literate about the using procedures of green banking practices and adopt all strategies to save the Earth.

STATEMENT OF THE PROBLEM

From the above-mentioned reviews, it is clear that there are a smaller number of research papers on the impact of COVID-19 on the Indian banking sector and the role of green banking

practices in India during COVID-19. So, this study attempts to fill the gap that will be useful for researchers and other readers in the future.

OBJECTIVES OF THE STUDY

- To elicit the role of Green banking practices in banks during COVID-19 in India.
- To highlight the impact of the pandemic on the banking sector in India.

RESEARCH METHODOLOGY

In order to achieve the above objectives, the study is based upon secondary sources like available literature, reports, and data that have been used. The data has been obtained from various journals, RBI reports, magazines, and websites.

GREEN BANKING

According to RBI (IRDBT, 2014), green banking is to make internal bank processes, physical infrastructure, and IT infrastructure as effective and efficient as possible, with zero or minimal impact on the environment. They had introduced green rating standards for Indian banks, which are termed as 'Green Coin Ratings'. Under this rating system, banks are judged on the basis of carbon emissions from their operations and on the amount of recycling, refurbishment, and reuse material being used in their building furnishings and in the systems used by them like servers, computers, printers, networks, etc. They are also being judged on the amount of green projects finance by them, and rewards or recognitions were given to borrowers for turning their businesses greener (Asifpervej, 2020).

Green banking is a stratagem to address sustainable development and instruct people concerning green banking practices. Still, many of them are intense to actively follow this strategy. Because, to uphold productive harmony between man and nature is to justify the economic and social welfare of the present and future generations (Asifpervej, 2020).

(K.V & Sudhakar, 2017)reports, (Wikipedia, 2021)Banks should take into thought the ecological aspect in lending apart from security and profitability. Various international protocols such as UNEPFI, Equator Principles, and LEED certificates have been issued in order to enable green banking, but Indian banks are still lagging behind. Indian banks have to adopt global environmental and social guidelines at the time of project finance which is known as 'Equator Principles'. Till 2020 year 94 financial institutions of the world have implemented these principles.

GREEN BANKING PRODUCTS/PRACTICES AND ITS ROLE DURING COVID-19

Green banking supports solving environmental problems like climate change, deforestation, air pollution issues, biodiversity loss, and the most important one is global warming. By providing services in the hands of the customers is indirectly saving nature. Some of the Green banking practices include:

1.Green mortgages 2. Green loans 3. Green credit cards 4. Green saving account 5. Online banking 6. Remote Deposit Capture 7. Green Car Loans 8. Solar ATMs 9. Green channel counters 10. Green certificate of deposits 11. E-Investment services 12. Bonds and mutual funds for environmentally friendly projects 13. Recyclable debit & credit cards 14. Green checking account 15. Green CDs 16. Green money market 17. Mobile banking (N.V.Kavitha, 2016).

Green banking practices are playing a pivotal in everyone's life, mainly during COVID-19. All the above green banking practices are provided by different banks to bring their services to the customers at remote places by identifying their needs. These practices helped customers a lot in the lockdown period without postponing some bank-related works, transactions, orders, purchases, and so on. Nowadays, people also aware of technology and have knowledge about going green. Because of few environmental issues, they got awareness. Prompt response from banks for any issues is one of the reasons to go for green banking practices during the lockdown. Banks are assimilating human and digital channels to deliver services to customers quicker and at low cost. Works can be done from remote areas. No crowd, social distance, paperless works, time-saving, lower cost, energy-saving, less traveling leads to less air pollution and last but not least saving environment all these are attained by green banking practices during COVID-19. By implementing green practices, Green banks contribution to saving nature and peoples' health is tremendous. Many people began to follow green banking practices, but during the pandemic, it became mandatory for all to act environmentally friendly and stay safe. Green banking practices are not only pivotal during COVID-19 but also act pivotal pertains to man-made environmental issues.

In these modern days, the global economy has started to focus much on economic progress, but at the same time, one of the mistreated environmental issues - Global warming, is largely ignored. It is a worldwide issue that calls for a comprehensive response. The effect of certain man-made gas emissions such as hydro-fluorocarbon, methane, carbon dioxide, and nitrous oxide is found accountable for distortion in climate changes. The problems of global warming should not be only limited to a debate but have to be dealt with going green. Thus, green banking is one of the ways of going green. The prevailing situation of the environment has run to a call by society for taking accountability to defense the earth.

ABOUT COVID-19 AND LOCKDOWNS

COVID-19 is a transmittable disease caused by a newly discovered Coronavirus. On March 24, 2020, the GOI ordered a nationwide lockdown for 21 days as a pre-emptive measure. As the end of the first lockdown period approached, state governments and other advisory committees suggested extending the state lockdowns to 1 May. On 14 April, PM extended the countrywide lockdown until 3 May, with a restricted relaxation after 20 April. On 1 May, the GOI prolonged the countrywide lockdown further by two weeks till 17 May. On 17 May, the lockdown was further prolonged till 31 May by the National Disaster Management Authority. Lockdown phases are Phase 1 (25 March – 14 April), Phase 2 (15 April – 3 May), Phase 3 (4–17 May), Phase 4 (18–31 May). On 30 May, it was declared that lockdown restrictions were to be lifted from then onwards, while the current lockdown would be further prolonged till 30 June for only the containment zones. Services would be restarted in a phased manner starting

from 8 June. It was labeled as "Unlock 1.0". Modi later explained that the lockdown phase in the nation was finished and that 'unlock' had already been activated (Wikipedia, 2021).

The next phase of unlock, unlock 2.0, was declared for the period of 1 to 31 July, with more ease in restrictions. Unlock 3.0 was declared for August. Similarly, unlock 4.0 was announced for September and Unlock 5.0 for the month of October. In the same way, unlock 6.0 was publicized for the month of November, unlock 7.0 was publicized for the month of December, unlock 8.0 was declared for the month of January, and Unlock 9.0 was proclaimed for the month of February. Unlock 10.0 was declared for the month of March (Wikipedia, 2021).

Figure 1: COVID-19 Pandemic timeline
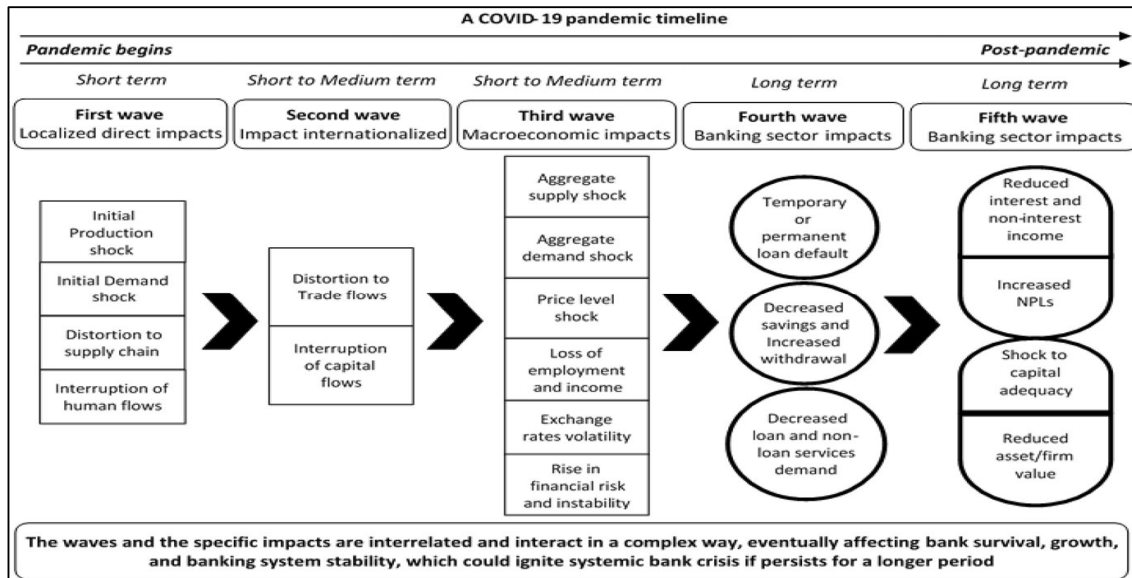
Source: (Barua & Barua, 2020)

BANKING SECTOR DURING COVID-19

1. The banking sector came to a standstill during COVID-19. Branch banking, especially credit, got affected.
2. Negative credit growth estimation for 2020-2021: retail credit growth in single digits, Agri loans to grow at around 3-4 percent, MSME loans to growth at around 7 percent, corporate credit growth to be in negative territory.
3. NPAs to grow to more than 12 percent of total advances: Moratorium on loans will increase NPAs, NPA resolution through NCLT has come to a halt, Recovery percent from NPAs would be much lower, Profitability of banks will suffer, Capital requirement.

Figure 2: Indian Banking Transactions During Lockdown Variations
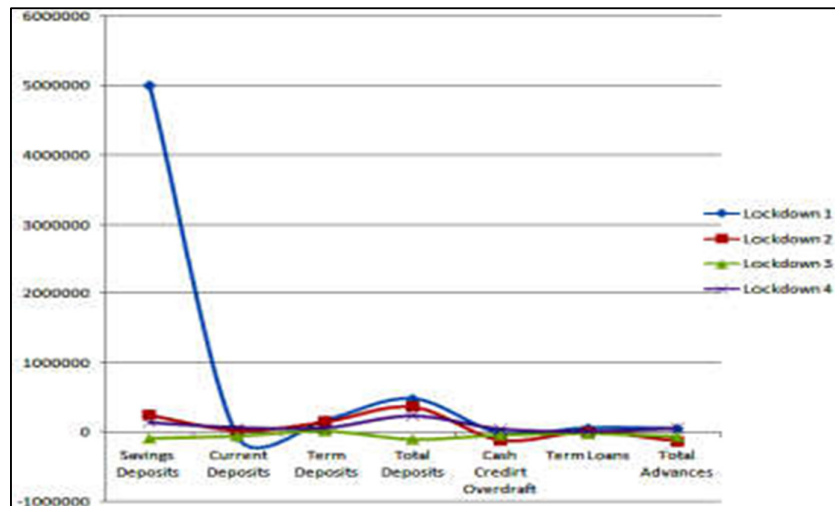
Source: (Perwej, 2020)

IMPACT OF COVID-19 ON THE BANKING SECTOR

Positives:

- Interest rates to fall
- Push to digital banking
- Banks to get regulatory forbearance-postponement of NPAs
- Liquidity abundance
- Agri & MSMEs to get bank credit.

Negatives:

- Increase in NPAs
- Risk aversion in banking sector-consequences
- Shortage of capital
- Efficiency suffers- soundness, efficiency, and profitability
- PSB amalgamations, though completed on paper-benefits will not be available soon
- Low demand for credit
- Loan recovery will be difficult - poor realization from NPAs (NCLT), DRTs are not working
- In the short run, the banking sector may not be able to meet the requirements of the economy.

Economic Impact

India had already been undergoing an extended economic slowdown. The GDP growth rate had dropped from 8.2% in January–March 2018 to 3.1% in January–March 2020 (Wikipedia, 2020).

In the first quarter of the financial year 2020-2021, this number went into negative. The GDP growth rate for April–June 2020 was -23.9%, which occurred to be the vilest ever in history. Vital parameters like manufacturing, construction, trade, hotel industry saw a

decline and slipped into negative. Manufacturing growth at -39.3%, Mining growth at -23.3%, Construction growth at -50%, Trade & hotel industry growth at -47% (Wikipedia, 2021).

Figure 3: Global Economic Impact of COVID-19
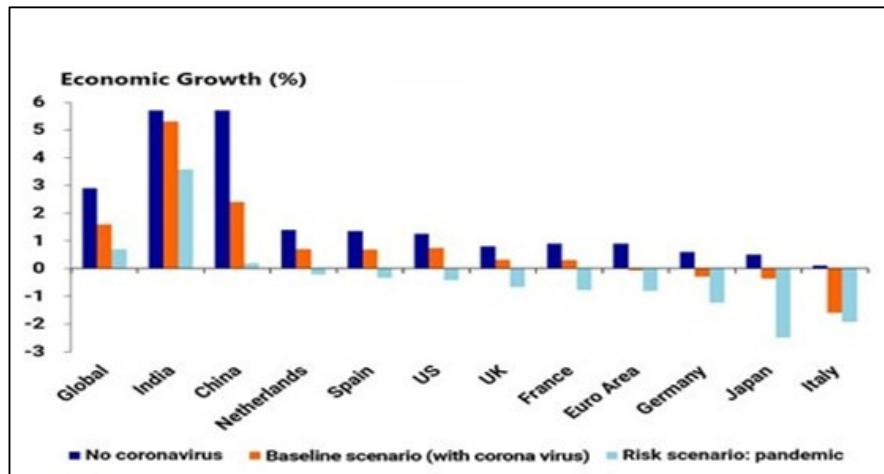
Source: Bloomberg Quint

(Dayal, 2021) reports that the RBI report presented the recital of the banking sector during 2019-20 and 2020-2021 so far. The broad theme of this year's report is the impact of COVID-19 on the banking sector.

1. During 2019-20 and the first-half of 2020-21, scheduled commercial banks (SCBs) fused the gains attained after the turnaround in 2018-19.
2. SCBs' gross non-performing assets (GNPA) ratio deteriorated from 9.1 percent at end-March 2019 to 8.2 percent at end-March 2020 and additional to 7.5 percent at end-September 2020.
3. Capital to risk weighted assets (CRAR) ratio of SCBs reinforced from 14.3 percent at end-March 2019 to 14.7 percent at end-March 2020 and additional to 15.8 percent at end-September 2020, partly aided by recapitalisation of public sector banks and capital hovering from the market equally by public and private sector banks.
4. Net profits of SCBs twisted around in 2019-20 after losses in the preceding two years; in H1:2020-21, their financial performance was propped up by the moratorium, halt in asset sorting and ploughing back of dividends.
5. The Reserve Bank commenced an array of policy measures to alleviate the effects of COVID-19; its regulatory realm was strengthened by legislative amendments, giving it greater powers over co-operative banks, non-banking financial companies (NBFCs), and housing finance companies (HFCs); and it also commenced a series of initiatives to boost its supervisory framework.
6. The recovery process gained grip with the resolution of huge accounts through the Insolvency and Bankruptcy Code (IBC); the Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act, 2002 (SARFAESI) channel also aided the process of recovery.

7. The balance sheet progress of Urban Co-operative Banks (UCBs) toned down in 2019-20 on lower deposit accretion and muted expansion in credit; while their asset quality worsened, increased provisioning caused in net losses.

8. The presentation of state co-operative banks enhanced, both in terms of cost-effectiveness and asset quality.

9. The combined balance sheet of NBFCs slowed in 2019-20 due to near motionless growth in loans and advances through some improvement became noticeable in H1:2020-21; not enduring a marginal worsening in asset quality, the NBFC sector remains robust with strong capital buffers.

10. The report also suggests some perspectives on the developing outlook for India's financial area.

CONCLUSION

From this study, it appears clear that life will not be the same as before COVID. Pandemic made us focus on new solutions to acquainted problems, and some of the changes will be permanently entrenched. The focus of Banks is to take required measures to mend from the pandemic effect to fill the financial gap. Because the banking sector is one of the affected sectors, green banking practices can play a pivotal role in helping customers to stay at home and stay safe. Moreover, this study is a small attempt asking depositors' notice to go green and save nature by following green banking practices.

REFERENCES

1. Yogesh Dayal. (2020). Report on trend and progress of banking in India 2019-2020. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=50871

2. COVID-19 lockdown in India. https://en.wikipedia.org/wiki/COVID-19_lockdown_in_India

3. Sahoo et. al., (2016). Green Banking in India: Problems and Prospects. International Journal for Research Granthaalayah, Vol.4 (Iss.8), ISSN- 2350-0530(O) ISSN- 2394-3629(P) https://doi.org/10.29121/granthaalayah.v4.i8.2016.2566

4. Dr.N.V. Kavitha. (2016). Green Banking – Towards Sustainable Development. ISSN 2278 – 0211 (Online), www.ijird.com January, 2016, Vol 5 Issue 2

5. Dipika. (2015). Green Banking in India: A Study of Various Strategies Adopt by Banks for Sustainable Development. International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181, Volume 3, Issue 10

6. Dr. Chanduji, P. Thakor. (2020). A Study On Impact Of COVID-19 On Banking Sector: An Indian Perspective. Paripex - Indian Journal Of Research, Volume-9, Issue-6, ISSN No. 2250 – 1991. DOI: 10.36106/paripex

7. Tesfaye Boru Lelissa. (2020). The Impact of COVID-19 on the Ethiopian Private Banking System. European Journal of Business and Management, www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.12.

8. Bipasha Barua, Suborna Barua. (2020). COVID-19 Implications For Banks: Evidence From An Emerging Economy. Springer Nature Switzerland AG 2020, https://doi.org/10.1007/s43546-020-00013-w

9. Dr. Giridhar K.V., K.G. Sudhakar. (2017). Green Banking: Issues and Challenges in India. International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS) Volume VI, Issue VI, June 2017 | ISSN 2278-2540 www.ijltemas.in Page 130.

10. Neyati Ahuja. (2015). Green banking in India: A Review of Literature. International Journal for Research in Management and Pharmacy Vol. 4, Issue 1. (IJRMP) ISSN: 2320-0901

11. Dr. Asif Perwej. (2020). THE IMPACT OF PANDEMIC COVID-19 ON THE INDIAN BANKING SYSTEM. International Journal of Recent Scientific Research Vol. 11, Issue, 10 (B), pp. 39873-39883.
http://dx.doi.org/10.24327/ijrsr.2020.1110.5578
Dr. Gobinda Deka. (2020). Green Banking Practices: A Study On Environmental Strategies Of Banks With Special Reference To State Bank Of India. Indian Journal of Commerce & Management Studies ISSN: 2240-0310 EISSN: 2229-5674
Dr. Kannamani Ramasamy (2020). Impact Analysis in Banking, Insurance and Financial services industry due to COVID-19 Pandemic. Pramana Research Journal, ISSN NO: 2249-2976

12. Global warming (2021). https://timesofindia.indiatimes.com/topic/Global-warming

13. Sudharshan Girmakar. (2018). Green Banking In India: A Study For Sustainable Development. 10th Economics & Finance Conference, Rome ISBN 978-80-87927-77-9, IISES DOI: 10.20472/EFC.2018.010.010

14. Pravakar Sahoo, Bibhu Prasad Nayaki. (2007). Green Banking in India. The Indian Economic Journal: The Quarterly Journal of The Indian Economic Association · October 2007, DOI:10.1177/0019466220070306. https://www.researchgate.net/publication/228378177

15. Equator principles. (2021) https://en.wikipedia.org/wiki/Equator_Principles

16. Kaimal, Manju M., & Sajoy, P.B., (2020, June). Circular Economy – A Paradigm Shift for Sustainable Development. Perspectives on Business Management & Economics, 1(1), 132-141. Retrieved from http://www.pbme.in/papers/15.pdf

CAN INDIAN BANKING INDUSTRY OVERCOME NPA ISSUE DURING THE PANDEMIC TIME?

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ABSTRACT

The real economy at present is in big and deep trouble. Sectors like aviation, logistics, airport infrastructure, transport and tourism need some stimulus to revive from pandemic situation. An account is classified NPA if the default is beyond 90 days. With the present crisis, a large number of accounts whether current or saving will fall in this category in the next two quarters. Researchers tries to evaluate do banking industry come out from NPAs loss because of COVID-19.

INTRODUCTION

Government authorities around the world have taken and constantly taking steps to shield the economic system from the modern-day pandemic situation. The move by the Finance Ministry is a promising move to shield MSMEs from liquidation and opposition at a notable extent. However, Micro and MSMEs rely upon massive and large establishments for his or her survival and boom. The authorities are taking essential movements and assisting the massive organization due to the massive range of human beings for employment, which can immediately depend on them. Without good assistance from the authorities of India couldn't survive and stabilize in the course of and after COVID-19.

1. According to a senior banker of a public financial institution, there is a need for blanket forbearance on debts that can be grown to be NPA withinside the coming months. "Otherwise, a large range of debts will grow to be NPA," said the banker.
2. A senior reliable of State Banks of India stated, "The actual economic system is in deep trouble. In the subsequent quarters or greater, banks assume deferment of NPA. Additionally, sectors like aviation, airport infrastructure, logistics, shipping and hospitality, transportation among different might want a few stimuli for survival."

Based on way lengthy the asset has been non-acting, banks are required to type the non-performing assets in one of the following categories:

Figure 1: Bank asset classification
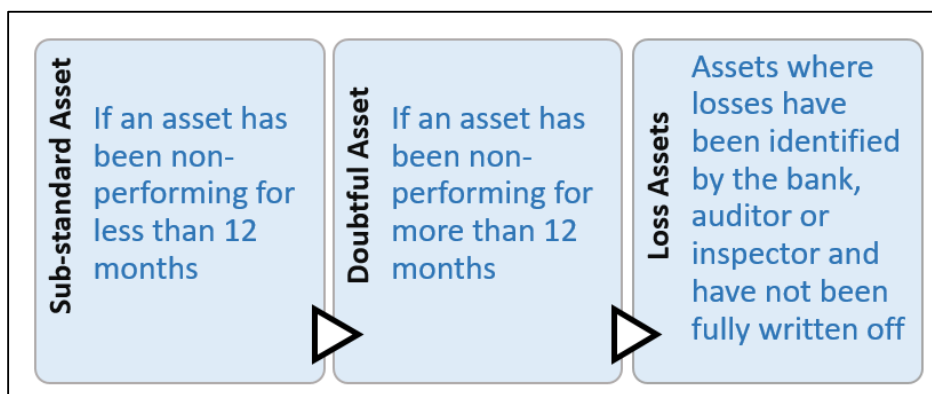
Source: Based on various definitions

REVIEW OF LITERATURE

1. Academicians such as Berger and DeYoung, 1997, Podpiera and Weill, 2008, Klein, 2013 and Breuer (2006) who have investigated determinants of NPAs have focused on a bank's efficiency (representing operational capability of a bank). The bank's efficiency is studied using a number of bank operational ratios such as operational costs in relation to interest income, net interest income to total assets, and others. These ratios indicated how well the bank used the available resources to generate income, and studies found empirical evidence that lower efficiency and NPAs have a positive relation.

2. Rajeev and Mahesh (2010), in their article deal with the issue of NPAs after the global financial crisis. They suggest that mere recognition of the problem and self-monitoring can help to manage the NPA problem to a great extent. Self-help groups can also play an important role in the recovery of loans.

OBJECTIVES OF STUDY

1. To assess the modern-day role of NPA
2. To evaluate NPA before and during COVID-19
3. To proposed some strategies to come out of COVID-19

POSITION OF BANKING INDUSTRY DURING COVID-19

• One review endorses that about 1/3 of industries and service providers have carried out mercy on their financial institutions loans. If simplest a 1/4 of those deferred loans subsequently cross awful, then the inventory of NPAs might growth via way of means of about Rs. Five lakh crores. And that is a conservative estimation. Senior financial institution officials had been quoted as estimating that the inventory of NPAs may want to grow via way of means of as a good deal as Rs. Nine lakh crores. In this case, we would be searching at NPAs of Rs. 18 lakh crores, equal to around 18 percent of current loans outstanding. For making plan purposes, it's miles really well worth thinking about who pays for such losses, if they will now no longer to materialize and due care must now no longer been taken.

• At one level, the solution can additionally be:

This time, the authority's monetary role can be pretty unique in comparison to every day 12 months. Central and State authorities deficits and money owed will growth dramatically this 12 months, as revenues, already slowing, had been decimated via way of means of the COVID - 19 crisis, while prices have multiplied tell of a greater grant, donation, and monetary assistance.

• Add in a slowly getting better economic system, and it will become clean that the monetary role will continue to be vulnerable for a few giants. As a result, the authorities will need to pass the burden onto the corporate houses and family sectors in the form of a higher amount of taxes, more arrears, and possibly higher inflation. But these sectors will resist, for they have monetary problems of their own.

• It will be tempting in those circumstances and occasion to delay in recognizing the issues, pushing it into the future, for example, by allowing financial institutions not to classify any awful loans as NPAs, and barring them from taking defaulters to the Insolvency and Bankruptcy (IBC) system. The purpose is that, in occasions where in no sector has a strong ability to undergo a loss, it will become vital to minimize the dimensions of said bad loss and awful loans.

• Broadly, in two ways.

➢ First, by stopping bankruptcies from occurring at the first place. To do this, banks will want to perceive the corporations which can be viable and lend them in the price range they

want to tide them over the instantaneously disaster. But banks are going through their own difficulties and are reluctant to undergo the risk of making such kind of loans. So, the authorities may want to create an assure fund to assist lending as one of the proposed.

➢ Second, when firms do default, they want to be resolved as fast as possible. Speed is essential because the monetary role of stressed and weak firms tends to worsen from time to time.

Figure 2: Gross Non-Performing Assets of Banking Sector

GROSS NON-PERFORMING ASSETS OF BANKING SECTOR			
Components	2018 (₹cr)	2019 (₹cr)	2020 Estimate (₹cr)
Opening NPAs	7,26,500	10,38,684	9,50,000
Addition	6,04,300	3,14,449	4,77,000
Reduction	1,28,300	1,79,711	1,94,000
Write-Off	1,62,700	2,36,948	2,60,000
Closing NPAs	10,39,800	9,36,474	9,73,000
Gross NPA%	11.20%	9.10%	9.14%
Gross Advances (For NPA computation)	92,83,929	102,90,923	106,50,000

Source: BusinessToday.in

Public attention is largely focused on the size of the NPAs, but a much more important matter is the recovery rate — the degree to which the banks can recover on these loans. Moreover, the only way to maximize the recovery rate is to sort out the bad loans speedily and accurately. If this can be done and firms put back on their feet quickly, the economy will get an additional benefit since the resolved firms will be able to contribute to the recovery.

A new approach is consequently needed. The immediate problems created by the crisis must be addressed quickly.

Figure 3: Projection of Gross NPA Ratios for Banks
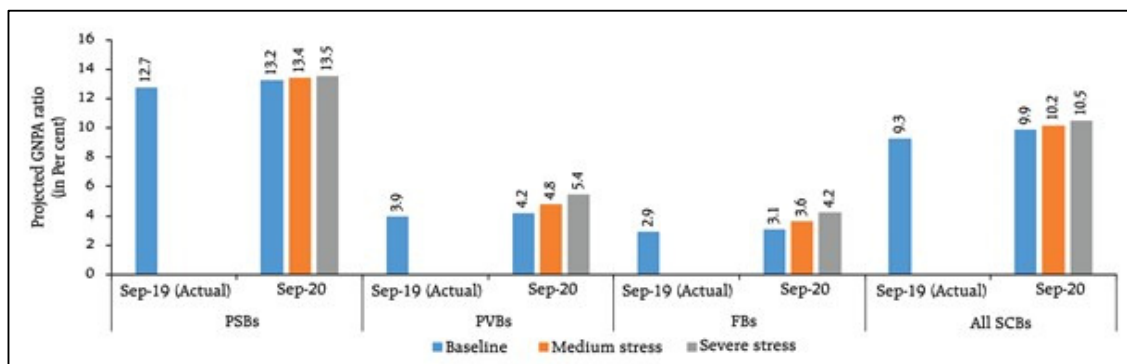
Source: RBI Financial Stability Report, December 2019

According to the records of the report, under the baseline scenario:

1. Gross NPA ratios for public sector banks may increase to 13.2 percent by September 2020 from 12.7 percent in September 2019.
2. For private banks, gross bad loans may rise to 4.2 percent from 3.9 percent;
3. For foreign banks, the gross NPAs may increase to 3.1 percent from 2.9 percent.

The share of large borrowers in scheduled commercial banks' total loan portfolios and their share in gross NPAs were at 51.8 percent and 79.3 percent, respectively, in September. That is lower than 53 percent and 82.2 percent, respectively in March.

Experts believe small business portfolios will see significant stress and face a liquidity crunch in the coming days if banks do not resume lending to the sector. Moreover, a government-backed credit scheme would greatly help the sector hit badly by the disruption in economic activity. Government guarantees are a popular below-the-line measure adopted by many countries to stimulate economies in the wake of covid-19, according to a 28 April note by ICICI Securities. Private sector lender IndusInd Bank has, in its internal assessment, used a scenario where the lockdown is lifted in phases, with half of the country opening up around mid-May or the third week of May; another 25% between the first and second week of June, and the remaining 25% in the first week of July.

The Reserve Bank of India also assesses the resilience of the Indian banking sector to macroeconomic shocks. In its Financial Stability Report released in December, the central bank found that under the baseline scenario, gross bad loan ratio of commercial banks may increase from 9.3% in September 2019 to 9.9% by September 2020.

STRATEGIES TO SOLVE UPCOMING INCREASE PROBLEM OF NPA'S:

Focus on business continuity planning on issues for survival.

Figure 4: Strategies to resolve NPAs

Source: Author compilation from various sources

1. **Responsibility & Accountability:** Junior and less experience executives are often made accountable for lapses, however, major decisions are made by the Credit Sanction Committee consisting of senior-level executives. Hence it's important to make senior executives accountable if banks want to handle and reduce NPAs.

2. **Code of Corporate Governance:** Even though the government had set up Banks Board Bureau (BBB) in April 2016 to attract talent, corporate governance hasn't improved to the desired level. Certain issues persist and need to be resolved urgently.

3. **Stricter NPA Policy and its Recovery:** The government needs to amend specific laws and give more powers to banks to recover their NPAs. The Insolvency and Bankruptcy Code (IBC) has brought in discipline because of fear of losing the asset. Since debtor control amendments to the Banking Regulation Act, the present scenario allows the RBI to conduct an inspection of a lender but does not give them the power to set up an oversight committee.

4. **Management of Credit Risk:** Proper credit appraisal, credit worthiness of customers and their skill and experience should be carried out properly. While conducting these analyses, banks should also do a sensitivity analysis and should build safeguards against external factors to avoid future losses. Effective Management Information System (MIS) needs to be implemented to monitor early warning signals about the projects. The MIS should ideally detect issues and set off timely alerts to management so that necessary action is to be taken on time.

5. **Asset Reconstruction Company:** There's a need to set up an ARC or an Asset Management Company (AMC) for fast-track resolution of stressed assets of PSBs. The government should initiate necessary steps to explore the feasibility after thorough discussions on pricing and capital issues.

6. **Fraud Management**: Frauds in PSBs arose both in number and value over the last three years. Three decades ago, too, the banking industry faced a similar situation of high NPAs, at 24%. However, we overcame the situation, and similarly, the prevailing stress won't last long.

CONCLUSION

Banks will need to respond to lasting social changes, including how consumers select channel preferences, products, and banks for their individual financial needs that are likely to result from the current crisis. Behavioral changes may accelerate the shift of the branch concept away from transactions toward a more complex, high-value operation. A special refinance facility of Rs 50,000 crores was announced to meet sectorial credit requirements - this is to specifically boost the liquidity of financial institutions like NABARD, SIDBI, and NHBs. NPA (Non-performing Assets) norms of 90 days have been relaxed. The period of the moratorium will be excluded from the 90-day classification norms of NPAs for those accounts, which would avail the moratorium facility. The NBFCs (Non-Banking Financial Companies) have been given the flexibility to give such relief to their borrowers. Though it is very difficult for BANKS to come out from the crisis of NPAs with acceptable strategies, at least they can minimize.

REFERENCES

1. https://economictimes.indiatimes.com/industry/banking/finance/banking/covid-19-impact-banks-to-witness-spike-in-credit-costs-non-performing-assets-in-2020/articleshow/75004720.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

2. https://www.business-standard.com/article/finance/covid-19-impact-banks-want-npa-forbearance-for-next-two-quarters-or-more-120032500544_1.html

3. https://indianexpress.com/article/opinion/columns/india-economy-npa-covid-19-arvind-subramanian-josh-felman-6400664/

4. https://www.livemint.com/industry/banking/banks-may-see-spike-in-npas-after-lockdown-early-trends-show-11588072759093.html

5. https://www.indiatoday.in/news-analysis/story/rbi-s-covid-19-booster-shot-is-it-enough-to-rescue-indian-economy-from-coronavirus-strike-1668080-2020-04-17

6. https://www.pwc.com/us/en/library/covid-19/coronavirus-impacts-retail-banking.html#content-free-1-afa8.

7. Rajeev, M. and Mahesh, H.P. (2010), "Banking sector reforms and NPA: a study of Indian commercial banks", Working Paper 252, Institute for social and economic change, 1-19.

8. A.N. Berger, R. DeYoung Problem loans and cost efficiency in commercial banks Journal of Banking & Finance, 21 (6) (1997), pp. 849-870, 10.1016/S0378-4266(97)00003-4

9. R.T. Clair Loan growth and loan quality: some preliminary evidence from Texas banks Economic and Financial Policy Review (Q III) (1992), pp. 9-22 Retrieved from http://ideas.repec.org/a/fip/fedder/y1992iqiiip9-22.html

10. Altunbas, Y., Evans, L., & Molyneux, P. (2001). Bank ownership and efficiency. Journal of Money, Credit and Banking, 926-954.

11. https://www.businesstoday.in/opinion/columns/coronavirus-impact-covid-19-delayed-npa-banks-banking-sector-haircuts-non-performing-assets/story/400524.html

12. https://www.newindianexpress.com/business/2019/dec/27/six-point-strategy-to-solve-non-performing-assets-problem-2081381.html

A CONCEPTUAL MODEL FOR TALENT MANAGEMENT IN INDIAN HOSPITALITY INDUSTRY – HR ANALYTICS FOR RECRUITMENT/ EMPLOYEE ATTRITION

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ABSTRACT

HR Analytics offers a great potential to improve the quality of decision making on human capital issues in an organization. Indian hospitality industry is booming in recent years and has a tremendous potential for growth. Despite mammoth potential, hospitality industry suffers from myriad problems such as wide skill gap, shortage of talented manpower and high attrition rate. The purpose of this paper is to explore the application and integration of HR analytics into the concept of Talent management. This paper is an exploratory research to understand the talent management process in hospitality sector in India. The study is based on extensive study of secondary sources to frame conceptual model of Talent Management for hospitality industry. A Talent management model is proposed, that can help the hospitably sector to bridge the talent management gap, if implemented effectively. There is a need to actively engage senior management and HR professionals in talent management practices to achieve organizational efficiency and competitive advantage.

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INTRODUCTION

The concept of 'Analytics' emerged in the past decade as a major force for driving data-based decision-making in the field of Human Resources (Levenson, 2011). In today's competitive world, HR analytics has become an imperative part of business in managing big data. Many companies have invested in big data and analytics to better understand human behavior, performance, and value creation. HR analytics is a multidisciplinary HR approach to link methods to improve the quality of people-oriented decisions in order to improve individual and organizational effectiveness. HR analytics plays an important role in every aspect of the HR function, starting from hiring, training and development, succession planning, Talent management, employee engagement, compensation, employee welfare, workforce collaboration patterns, and comprehending employee lifetime. This paper will harness HR analytics to make the area of Talent management more effective.

HR ANALYTICS FRAMEWORK

An organization should collect raw facts from various sources through social media, online job portals, various surveys etc. The second step involves data visualization and cleaning of unwanted data and converts it into a meaningful model that can be used for prediction. The next step involves applying ML and Data Analytics and prepares a concluded report that can show employee metrics and help the Management make better decisions.

Figure 1: Cyclic Framework of HR Analytics
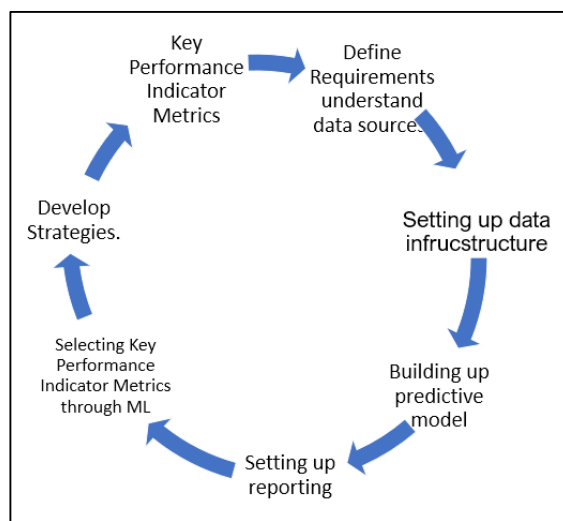
Source: Author compilation

A group of McKinsey consultants coined the term "Talent Management' in 1997, and since then, the concept has caught the attention of HR practitioners and academicians immensely.

Talent management has become a topic for both debate and research in recent times. The literature on Talent Management explores the concept in every possible direction, using a range of academic parameters, including HRM and career management (Gallardo-Gallardo et al., 2013). The concept of talent management is the major theme and challenge for the hotel industry, placed next to succession planning, leadership development, innovation, and performance management (Thunnissen, M., Boselie, P., & Fruytier, B., 2013). As per the Goldman Sachs study, India will be the largest contributor to the global labor force and will add about 110 million workers by 2020. To sustain the growing workforce, India needs to create 8.1 million jobs a year to maintain its employment rate (World Bank report).

A majority of Indian industries are facing the challenge of Talent management. According to a report released by INSEAD business school in partnership with Google and Adecco Group, India ranks 72nd on Global Talent Competitive Index (GTCI), 2020. According to the report, India's biggest challenge is to improve its ability to attract and retain talent. India needs to focus on areas of 'business-government relations' and 'regulatory systems'. Manpower Group India, in its 13th report on 'Talent Shortage 2020' revealed that the extent to which India faces difficulty in finding the skills it needs ranges from 56 – 65 percent.

Mayo (2018), in his study, identified four categories of talent that can be managed in an organization:

• Individuals with high potential – Constitutes 1% of the total workforce. They possess the qualities to become future leaders.
• Individuals with strategic capabilities - Constitutes 20 % of the total workforce. They are critical analysts, possess technical and leadership skills.
• The graduate population – Constitutes 50% of the population. They have the ability to do broader or bigger jobs in the future.
• Individuals with a unique talent – Constitutes nearly 97% of the workforce. They possess unique talent that an organization can gradually develop.

In the Indian hotel industry, there is a need for management to identify, retain and develop all four talent categories. There is a need to retain job families whose skills are hard to acquire and replace. Individuals belonging to such job families possess capabilities like personal skills, professional and business know-how, qualification and experience, and wide contact (Mayo, 2018).

This article reflects upon the concepts of 'Talent Management' given by Thunnissen, M., Boselie, P., & Fruytier, B. (2013). This article explores the problems related to talent management in the Indian hotel industry concerning skill gaps and attrition rate. This article aims to propose a talent management model for the senior management executives and HR professionals of the hotel sector to identify a talent gap in their organizations and align their talent management plans with the growth plans of their organization to mitigate the attrition rate. The various areas explored make use of HR analytic tools to manage big data related to the workforce.

This paper proposes a talent management model for hospitality industry practitioners to use as they address the complex issues related to talent management. The model consists of four key elements:

1. Identifying the talent gap
2. Identifying and hiring talent
3. Developing and deploying talent
4. Retaining talent

With the advancement of technology, especially the growth of the Artificial Intelligence and Data Science field, it has been essential for the HR management field to have data-driven applications in order to predict employee behavior. With the attrition help, algorithm authors demonstrated how to measure employee attrition and make the prediction for existing employees. The forecasting algorithm always helps an organization to have more employee retention and select only suitable potential candidates.

LITERATURE REVIEW

Managing talent or practicing talent management (TM) or global talent management (GTM) extremely well is not a choice for companies but a mandate for companies that want to succeed and excel (Schuler, 2015). The talented employees have the strategic capabilities that can increase the productivity, efficiency, and competitive advantage of organizations in all industries (Sabuncu, K. U., & Karacay, G.; 2016). In order to contemplate the concept of talent management, we should first define the term 'talent' extensively. From organizational point of view, talent refers to human capital in an organization that is both valuable & unique, generating four quadrants: low-value/high uniqueness (partners), high value/low uniqueness (traditional), high-value/high uniqueness (core creatives) and low-value/low-uniqueness (de Vos, A., & Dries, N., 2013). As per Tansley (2011), individual talent is a combination of high potential (Ability, Aspiration, Engagement Emotional commitment: Rational commitment, Intent to stay, Passion and motivation), high performance (high levels of expertise; leadership behaviors; creativity; and initiative stemming from a "can-do attitude" based on self-belief.) and individual strengths (Positive psychology).

Some authors suggest the competency model as an important step towards talent management practice in an organization (Phillips & Roper, 2009). The behaviors associated with a particular performance level can be defined as a competency, and competencies can also be built from content knowledge and cognitive or behavioral skills (Hunt and Weintraub, 2002). Another important aspect for talent metrics is person's potential that is defined as the ability to become a key leader in the functional or technical area fast. Mayo (2018) has categorized the potential into three -

• Potential to rise high in hierarchy, and gaining new heights
• Potential to portray technical or leadership skills i.e., showing 'depth'
• Competent in more than one area, i.e., showing 'breadth'

Talent Management involves supply, demand and flow of talent through the human capital domain (Pascal, 2004). Lewis & Heckman (2006), look at Talent management from three perspectives – definition of Talent Management, concept of talent pools and concept of generic talent and as per them, the concept and perspective of TM are still unsatisfying. Talent Management process consists of the following activities (Uren, 2007; Vaiman, Haslberger and Vance, 2015; Mayo, 2018)

1. Talent strategy and planning
2. Identifying, recruiting, and selecting talent from the external labor market.
3. Developing and deploying employees.
4. Ensuring retention of talented employees.

As per Collings & Mellahi (2009), strategic talent Management is about systematic identification of key positions, developing a talent pool of high potential to fill these positions, and developing a differentiated human resource architecture to gain competitive advantage. The need for talent management is based on the fact that talent management improves performance which drives productivity and competitiveness (Baum 2012). Talent management should be adopted throughout the industry as a distinct approach to managing people so as to promote positive perceptions of the industry as an employer and service provider, to indicate that employees are valued and valuable (Maxwell, 2008).

Figure 2: Global Talent Management Strategic Framework
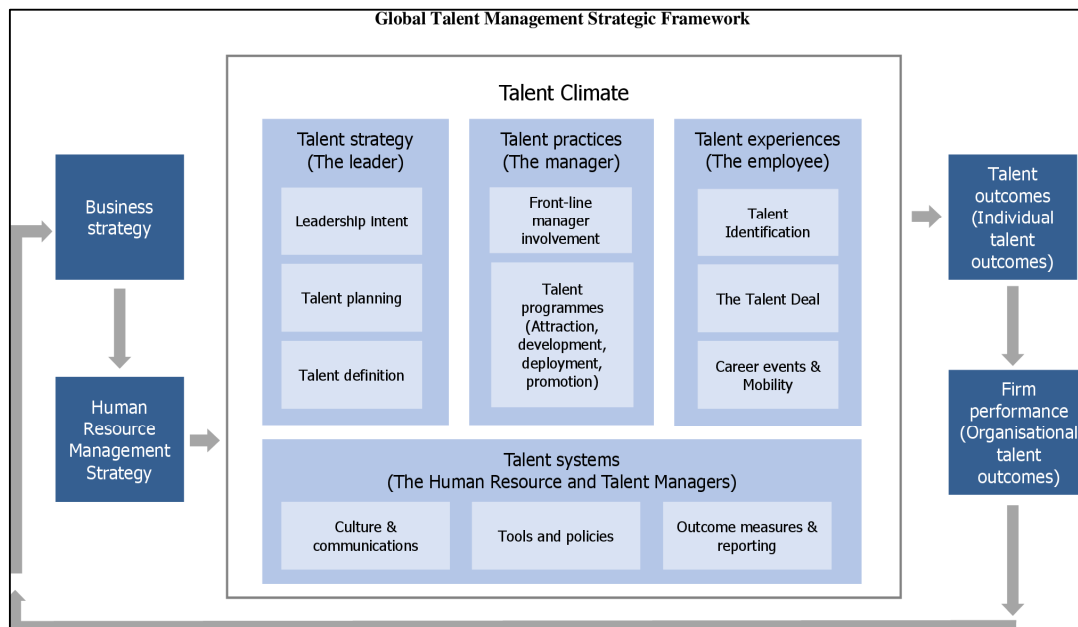
Source: King (2015)

Latukha (2014) claims that the lack of managerial and professional talent has become one of the most important human resource management challenges for the majority of multinational companies. Talent management issues are limited to those MNEs or big local companies and have become crucial for all companies regardless of their size and level of internationalization (Festing, Schafer & Scullion, 2013). Tourism is a labor-intensive industry that provides skilled, semi-skilled, and unskilled workers directly and indirectly (Subbarao, 2008). It benefits the larger ecosystem with its direct and indirect advantages, and today it enjoys the status of being one of the key generators of employment in the country. In 2017-18, over 81.1 million Indians, accounting for 12.38% of the total workforce, were employed by the sector. The number is expected to rise by 2 percent annum to 52.3 million jobs by 2028 (ibef.org).

With a sea of employment opportunities on one side, the tourism industry, unfortunately, faces a talent supply and demand mismatch on the other side. The shortage of skilled and trained employees in the labor-intensive hospitality industry is acute, and there is a wide mismatch between job requirements and candidates available. The hospitality industry is a high customer–service–oriented business where interaction between employees and customers determines the business's competitive advantage and success (Chand, and Katou, 2007). So in the hospitality industry, there is a need for professional candidates who have good knowledge and experience of serving and interacting with people. Companies can compete based on the skills and talents of their employees and are exploring that, by attracting and retaining the best and the most deserving employees, the company can achieve higher than average market share and raised profits (Smith, 2007).

Employee turnover is one of the main employee outcomes of talent management. Challenging work, learning, and awards affect general work conditions, and those factors, in return, influence both organizations' and sectors' turnover rates (Sabuncu, and Karacay, 2016). The hotel industry also faces a high attrition rate based on low wages, poor working conditions, lack of job security, work stress, lack of recognition & growth, and promotion opportunities (Getz, 1994). Hotels generally regard high turnover as part of the norm, and employees believe that they are entering jobs with limited career development opportunities (Davidson, Timo, and Wang; 2010). Poor image of the industry to qualified graduates, ambiguous attitudes to investment in personnel development, inflexible employment, and an unsustainable approach to talent development and higher labor turnover is an indication that the hospitality industry will face greater challenges in talent management than other sectors (O'Leary and Deegan, 2005, Jithendran and Baum, 2000). There is a need to change the negative perception of the industry and the development of a 'career culture' which drives the young workforce to enter the industry (Cairncross & Buultjens, 2010). Also, it is imperative for the hospitality industry to focus on human resource practices and emphasize employee identification with the organization in order to not reduce turnover intentions among employees but also to improve their performance (Santhanam, et al., 2015). Talent Management in the hospitality industry needs formal processes, stakeholder participation, and strong links between leadership and talent so that specific industry-oriented skills and attributes can cascade to all organizational levels.

Table 1: Framework on Talent Management

Authors	Contribution and results
Oehley, 2007	Partial Talent Management competency model. Based on factors 1. Organisational job satisfaction and (2) Supervisory job satisfaction
Cappelli, P., 2009	Supply chain Model for Talent management. It is based on 4 principles • Make and Buy to Manage Risk • Adapt to the Uncertainty in Talent Demand • Improve the Return on Investment in Developing Employees • Preserve the Investment by Balancing Employee-Employer Interests
Collings & Mellahi, 2009; Kim et.al., 2014	Strategic Talent Management Model to contribute to the organisation's sustainable competitive advantage
Phillips & Roper, 2009	Talent management framework for real estate. The framework consists of five key elements: (1) attracting; (2) selecting; (3) engaging; (4) developing; and (5) retaining employees.
Boudreau, Hopp, McClain and Thomas, 2003; Levenson, 2011	Capability-Opportunity-Motivation (COM) model for identifying the complete range of factors that impact individual performance
financeSchuler, 2015	The 5C framework for managing talent. The five Cs are – Choices, Considerations, Challenges, Context/Contingencies, Consequences
Tarique & Schuler, 2012; Vaiman, Haslberger and Vance, 2015; Mayo, 2018	The Talent management process
McDonnell et. Al., 2010; King, 2015; Vaiman, Haslberger and Vance, 2015	Global talent management strategic framework and multiple-actors model for multinational enterprises
Tajuddin, Ali, & Kamaruddin, 2015	Talent management crisis model for quality life - to examine the impact of talent management programs on employee value proposition or intention to leave in Malaysian Banking System

Source: Author

MACHINE LEARNING FOR RECRUITMENT PROCESS

Following the traditional approach does not assure promising results in Human Resource Management. Machine Learning is an approach under advance AI, where the algorithms are designed to allow the machine to learn from its mistakes and experience. Data-driven ML algorithms can analyze and transform it into valuable insights regarding the professionalism and preferences of a candidate and ensure a friendly and perspective environment that would encourage all candidates to become a part of the organization for a longer time.

OBJECTIVES OF THE STUDY

The paper seeks to explore the grounds as to how the senior management and HR professionals of the hospitality industry perceive the existence of a talent gap in their organizations and how they are implementing talent management strategies to retain desired talent. Also, the article has made an attempt to frame a conceptual model for Talent Management, which could help manage talent by implementing certain strategies. Subsequently, the article also makes an effort to identify talent gaps existing in the industry and how to overcome it.

RATIONALE OF THE STUDY

The rapid expansion of the hotel industry of an international standard in India creates a high demand for skilled and trained manpower, which demands efficient, high-quality service. Since a greater number of people are frequently traveling, resulting in more demand for hotels even in the remotest locations. Indian hotel is still people-oriented, and manpower costs are affordable when compared to other countries. With hotels expanding at 20 to 25 percent per year, the shortage of skilled manpower is experienced not at the higher level, which is more difficult to fill, but even at the lower ones. The paucity of skilled manpower is exacerbated by the outdated training programs carried out in the various institutes, which have to be upgraded inevitably. Indian hotel industry faces a tough issue of talent gap that poses a major threat to the overall development of tourism. Moreover, the attrition rate in the hotel industry is extremely high. In fact, the hotel and restaurant industry alone experience an employee turnover rate of 73.8%, which is exponentially higher than the annual average of 10 -15%. The literature surveyed give evidence of various Talent management model from HR analytic point of view. The various models explored gave the author insight into the concept of 'Talent Management' to frame a Talent management model for the hospitality industry, which, when implemented, will help the management to nurture and retain talent.

METHODOLOGY

The findings are derived from the secondary sources readily available. Various reports and working papers were referred to – World Bank report; NSDC report; Goldman Sachs study; Manpower Group report, apart from numerous journals. The in-depth analysis of available literature had helped the author to frame the Talent management model to identify talent gap, acquiring talent, developing and deploying talent for pivotal roles and retaining talent.

The study will also suggest solutions to check the high attrition rate in the hotel and restaurant industry. The concept of HR analytics is applied throughout the exploration of the given model. An attrition algorithm is used to demonstrate how to measure employee attrition and make the prediction for the existing employees. For the attrition algorithm, a primary dataset between 30 to 55 age groups of employees was used.

Proposed Talent Management Model – In the proposed framework, the potential or competence of an individual and values forms the core of the organization. The given model provides focus to the organization and consists of four key elements:

1. Identifying the talent gap
2. Identifying and hiring talent
3. Developing and deploying talent
4. Retaining talent

COMPETENCE AND VALUES

The first step of HR analytics is to analyze the competence of an individual. Figure 2, demonstrates a model of competence, which together make up the values of an individual. Competence and values together form a basis from where the talent management process begins. Cultural values are defined as a rich complex of meanings, beliefs, practices, symbols, norms prevalent among people in a society and is regarded as shaping and justifying individuals' effect, behaviors, and cognitions (Schwartz, 2003). Competence is a keyword in HRD and is used in developing, training, and educating employees in such a way that they are able to meet the demands of work (Stoof, 2002).

Figure 3: Competency Model

Competence		
Personal Skills	Business know-how	Experience & Educational qualification

People-related areas are one of the most crucial parameters to measure. It helps explore talent to fill the gap, in hiring and promotional decisions, and in training and development to measure program effectiveness (Mayo, 2018). An individual's CV reflects experience, educational qualification, and to some extent, areas of expertise. Personal skills can be assessed by positive and negative indicators, and business know-how can be assessed using a five- or seven-point linear scale.

EFFECTIVENESS OF TALENT MANAGEMENT PROCESS

The second area of HR analytics is looking into the attributes in effectiveness for managing various Talent management processes. Figure 4 shows the framework of Talent management and its four processes.

Figure 4: Talent Management Model
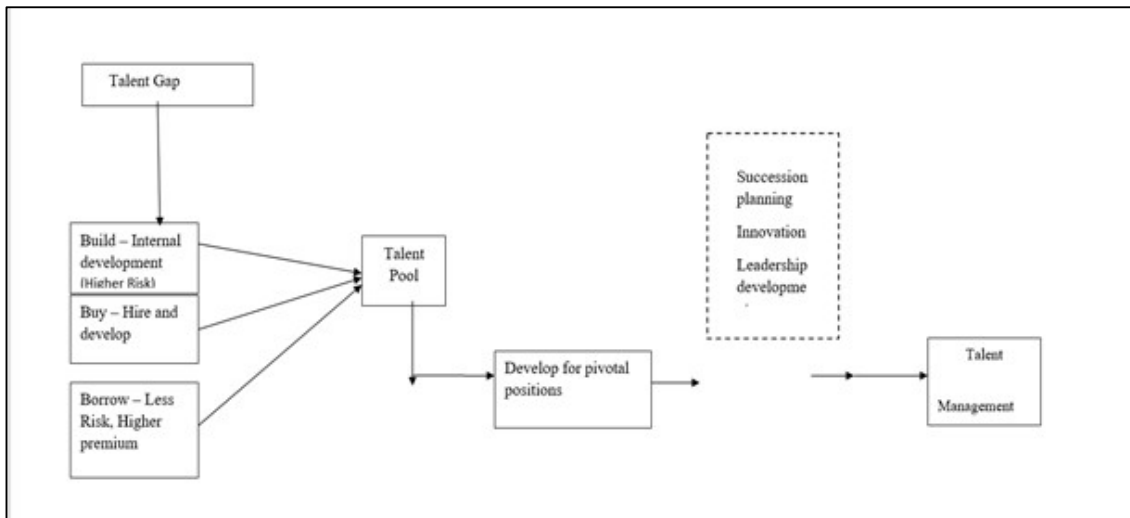
Source: Author compilation

IDENTIFYING THE TALENT GAP

The role of HR analytics starts with identifying the talent gap existing in the hotel industry. In order to identify the gap, there is need to outline the key components of potential or competence of an individual. There is a need for an HR manager to focus on all the components rather than only behavioral competency.

Figure 5: Overall structure of hotels and restaurants
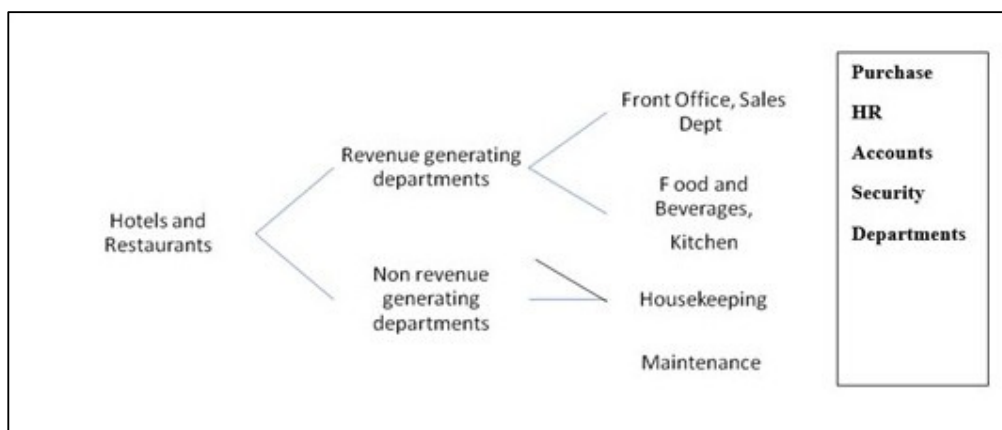
Source: NSDC Report

Table 2: Educational qualification for manpower in Hotels and Restaurants

Functional area	% of people	Educational qualification
General Manager / Manager	5%	MBA, CA, CS, ICWA
Managers / Supervisors / Assistants - Front office, F&B, House Keeping Kitchen (Chef/Cook/Steward), Purchase, Sales, HR etc	20 – 30%	Post Graduates/Graduates
Chef, Steward, Line cook, F&B services etc	25 – 55%	Diploma
Kitchen staffs, Front office – Bell boys, Waiters/Servers, Bartenders, Security guards, Room service etc	20 – 40%	High school and below
	100%	

Source: NSDC Report

SKILL REQUIREMENTS AND SKILL GAPS IN HOTELS & RESTAURANTS

Table 3: Skill Requirements and Skill Gaps in Hotels & Restaurants (Managerial level)

Function	Level	Skills required	Skill gaps
Front office	Front office manager	- Smooth functioning of the department. - Good problem-solving skills, people management skills and communication skills. - Ability to maintain history and network with guests. - Review room availability status and promote sales. - Co-ordination with F&B, Housekeeping etc.	- Inadequate skills to interact with guests. - Inability to proactively review occupancy and promote. - Inadequate ability to manage team.
F & B	Senior Captain/ Restaurant manager/ Beverage manager	- Supervisory skills, Good communication skills - Ability to manage F&B Inventory - Basic knowledge of cuisines	- Inadequate people management skills - Inability to handle

		• Ability to interact with guests • Ability to manage customer complaints	customer complaints.
Food production	Executive Chef/ Head Chef/ Sous chef	• Ability to prepare different kinds of cuisine • Awareness of food calorific values. • People management skills, Food presentation skill, Good communication skills • Innovation in food preparation • Ability to plan menu • Knowledge of food costing, Quality control, Inventory management	• Inadequate awareness of latest cuisines • Inadequate people management skills • Inadequate knowledge of cost management
Housekeeping and Maintenance	Executive – Housekeeping/ Chief engineer	• Smooth functioning of the department • People management skills, Problem-solving skills • Ability to groom staff • Knowledge of using housekeeping equipments, vacuum cleaning machines, laundry, etc. • Ability to interact with guests.	• Inadequate skills to interact with guests. • Inadequate ability to manage team • Inability to control and groom staff

Source: NSDC Report

The size of the tourism industry is expected to grow from currently Rs. 4413 billion to Rs 21,011 billion by year 2022 (growing at the CAGR of 13%). The employment in the hotel category is forecasted to increase from 2.9 million in 2018 to 4 million in 2022. Apart from the employment generation for skilled/trained manpower arising due to new establishments, there would be additional employment generation for skilled/trained manpower from the conversion of the unorganised sector to organised sector (NSDC Report).

Identifying and hiring talent

After identifying the talent gap in the hospitality sector, the next step is to hire the bright talent by the recruiters of the firm. The talent can be identified internally, for filling the senior vacancies. The success of internal selection depends on the percentage of talent identified who fulfils potential expectations. Internal recruitment is time saving as well as less expensive.

However, if the vacancies cannot be fulfilled by internal recruitment, companies can opt for external hiring. There are significant time and financial investments involved in this process, particularly for hiring executive level. An organization needs to be creative while developing a recruitment strategy and avoid traditional recruiting methods when hiring Generation Y and millennials (Phillips & Roper, 2009). Traditional hiring methods such as resume screening, conducting aptitude tests, and a reference check is becoming obsolete in objectivity terms and losing their reliability and authenticity, thereby increasing costs on training and ROI. The objective methods of selection such as psychological assessment, technical skill assessment, soft skills assessment, behavioral interviews, in combination with other hiring tools, should be used for optimum personality-job fit. The effectiveness of hiring depends on how many external candidates accepted the job offers and their employee value proposition in the market.

Companies can also outsource/borrow manpower from outside, which is less risky and gives a higher premium. The reason for this mode of hiring is that the use of outside service providers is more efficient and less costly than hiring staff to handle these functions in-house.

Developing and deploying talent

The organizations should be able to differentiate between employees who are strategic performers and those who are not, and for the pivotal jobs to have a substantial impact on organizational performance. It is important that such jobs are filled with high performing or high potential employees (Collings & Mellahi, 2009). Once the people with high potential and high performance are identified, the individuals should be strategically deployed and supported with HR policies (Collings & Mellahi, 2009). Employee performance is a function of the employee's ability, motivation, and opportunity to perform (Boselie et al., 2005). Therefore the future leaders and high performers should be given challenging jobs continuously, should invest in learning, and should be given recognition/ rewards for their efforts. The talented employees will stay in an organization when there is - cordial relationship with his or her supervisor; work-life balance; opportunities for growth and personal development; adequate training; challenging work; a feeling of a valuable asset for an organization (Gostick and Elton, 2007). Employees value opportunities for learning and creativity more than salary, flexible working hours, vacation, perks etc. The talent pool so created and developed can be deployed to pivotal roles in an organization depending on the role expectations. The organization should conduct a regular training programme for the employees and allot mentors to talk to the employees about their performance.

Retaining talent

Retaining the trained and competent talent pool is more important than developing it. Employee retention is closely linked to an organization's performance management system and that a compensation package should clearly communicate expectations of performance, skill requirements, experience, and behavior (Phillips & Roper, 2009). Performance Management system has an ability to challenge and motivate employees, therefore people and strategy should be linked to performance. As per Bhatnagar (2007), the major reasons for employee turnover were poor communication within an organization, discomfort with the culture and dissatisfaction with the kind of career path available to them. There is a need for

an organization to mitigate the 'push' factors (those which makes an individual to leave) and make 'pull' factors (offers made by external firms), a difficult decision to consider (Mayo, 2018).

Succession planning remains a crucial factor in many hotels and restaurants. Succession planning involves clearly defining the necessities and inevitable competencies for key positions and then identifying the employees, who could be developed to fill these positions in the future (Clunies, 2004). As per Barlow, (2006), Talent management could be seen as new jargon for succession planning. Effective succession planning systems are based on well defined competencies and reliable information about the current performance and potential of employees (National Academy of Public Administration, 1992). Succession planning should focus more specifically on effective talent assessment and compel managers to look at employees, who are ready for the roles. To ensure that this is a fair and effective process, decisions should be based on systematic analyses of: (1) job requirements (both current and projected) of different level positions, and (2) the current performance levels and potential of employees in the pipeline to fill those positions.

Executive leadership is very important to the effectiveness of all organizations. The quality of the senior executives clearly affects the performance of the organization and the motivation and satisfaction of employees (Lawler, 2008). Effective leadership at all levels is the best source of motivation and culture that makes human capital a competitive advantage. Moreover, leaders are the main drivers of organizational success by being the sole strategic decision-makers. In order to develop leaders within organizations, effective talent management practices become crucial.

Service innovation "introduces something new into the way of life, organization, timing, and placement of what can generally be described as the individual and collective processes that relate to consumers" (Barcet, 2010). As a result of continuous innovation, the hospitality industry has improved its service quality and offers a more customized experience, such as predicting customer needs and wants, increasing loyalty through, expanding customer base, and increasing efficiency and productivity (Bilgihan, & Nejad 2015). Although the hospitality industry is still slow in adopting new technologies, early adoption will help increase operational efficiency and create more value for customers.

Attrition algorithm for potential Recruitment/ Employee Attrition

In order to validate the above model, we have shown an analysis for a given dataset between 30 to 55 age groups of employees. With the help of the attrition algorithm, we have demonstrated how to measure employee attrition and make the prediction for existing employees. The forecasting algorithm always helps an organization to have more employee retention and select only suitable potential candidates.

Source Code using Python for Data driven Employee Attrition

```
#import the libraries

import numpy as np

import pandas as pd

import seaborn as sns

#load data

from google.colab import files

uploaded = file.upload()

**/#browse the .csv file and upload

#store data into dataframe

df = pd.read_csv('file_name')

#print the data (mention row no.s)

df.head(row_no.)

#get the column data types.

df.dtypes

#view some statistics.

df.describe()

#show number of employees left by age

import matplotlib.pyplot as plt

sns.countplot(x='age' hue='attrition')
```

Figure 5: Descriptives

EmployeeID	orighiredate_key	age	department_name	job_title	gender_full	termreason_desc	termtype_desc	STATUS_YEAR	STATUS	BUSINESS_UNIT
1318	8/28/1989	52	Executive	CEO	Male	Not Applicable	Not Applicable	2006	ACTIVE	HEADOFFICE
1318	8/28/1989	53	Executive	CEO	Male	Not Applicable	Not Applicable	2007	ACTIVE	HEADOFFICE
1319	########	50	Executive	VP Stores	Female	Not Applicable	Not Applicable	2007	ACTIVE	HEADOFFICE
1319	########	51	Executive	VP Stores	Female	Not Applicable	Not Applicable	2008	ACTIVE	HEADOFFICE
1795	7/23/1951	55	Dairy	Dairy Person	Female	Not Applicable	Not Applicable	2006	ACTIVE	STORES
1795	7/23/1951	56	Dairy	Dairy Person	Female	Not Applicable	Not Applicable	2007	ACTIVE	STORES
5980	9/13/1976	34	Dairy	Dairy Person	Female	Not Applicable	Not Applicable	2010	ACTIVE	STORES
5980	9/13/1976	35	Dairy	Dairy Person	Female	Not Applicable	Not Applicable	2011	ACTIVE	STORES
6601	########	29	Processed Foods	Shelf Stocker	Male	Not Applicable	Not Applicable	2010	ACTIVE	STORES
6601	########	30	Processed Foods	Shelf Stocker	Male	Not Applicable	Not Applicable	2011	ACTIVE	STORES
8231	########	21	Customer Service	Cashier	Male	Layoff	Involuntary	2015	TERMINATED	STORES
8258	5/28/1994	21	Dairy	Dairy Person	Male	Layoff	Involuntary	2015	TERMINATED	STORES

Figure 6: Employee attrition age graph for given dataset
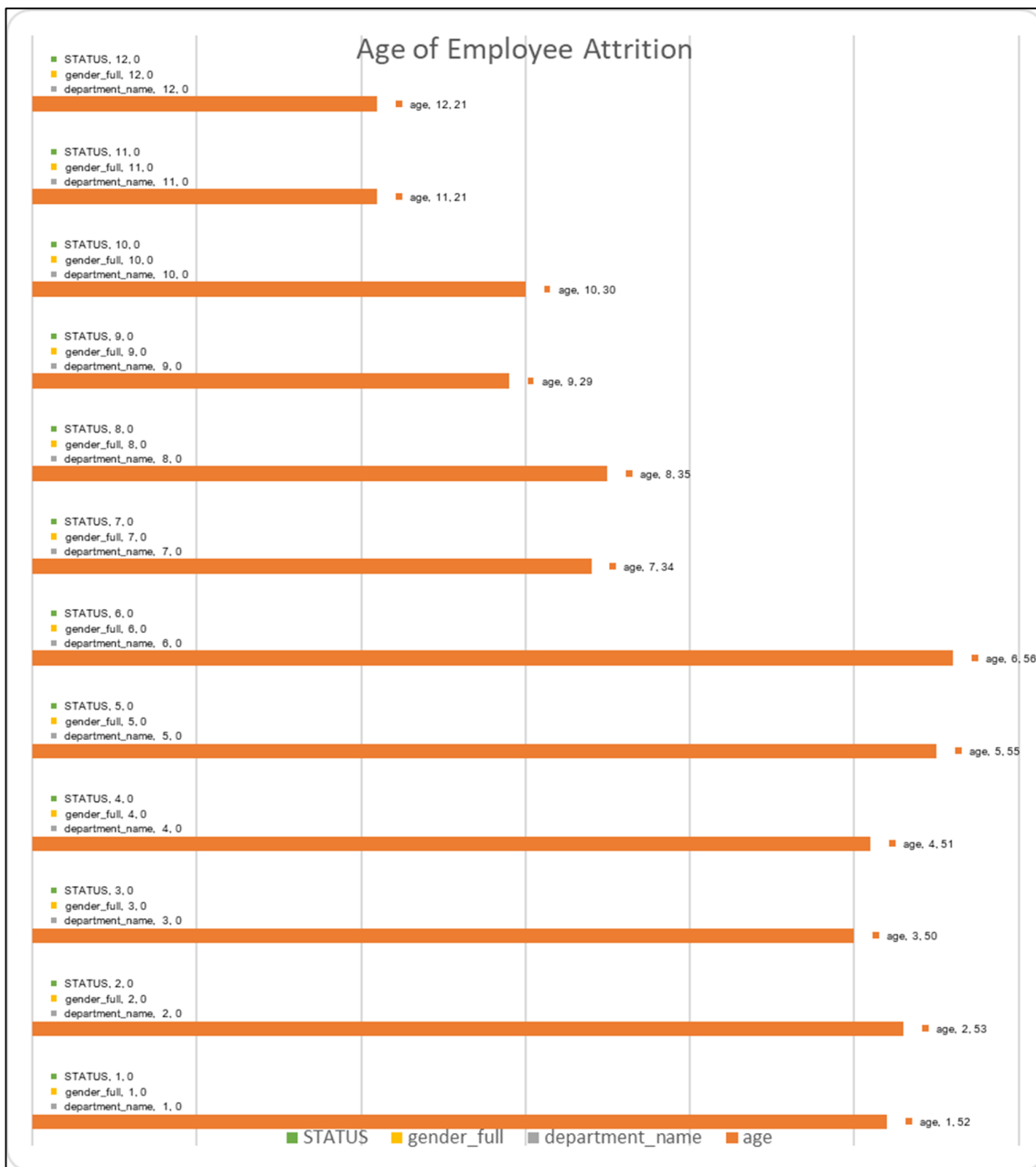
Source: Author compilation

After the data prediction and visualization its showing 50+ age group employee shad opted for voluntary retirement attrition. It can easily be concluded that the number of layoffs are very less. For the given data set the employee retention percentage is high and with the help of analytics company can hire trustworthy employees.

CONCLUSION

In HRM, poor decision-making regarding selection, performance assessment, and lay-offs often result in resentment, low levels of commitment, higher turnover rates, loss of productivity and revenue, and damage to the employer's reputation (Cheng, 2017). The talent gap is huge in the hospitality sector at all levels. According to a Cushman and Wakefield report, the current supply of professionally-trained manpower in the hospitality sector is only 8.92% of the total requirement. This shortage of skilled manpower poses a threat to expansion plans for big hospitality groups that are expanding fast within India's tier-II and tier-II cities and rural areas. Therefore, the educators of entrants to the hospitality industry in India have an important role in shaping perceptions of work in the industry and developing the management abilities of students, in delivering the series of actions that together make up Talent management strategy and recruitment, development, and retention policies (Maxwell, 2008).

There is no doubt that talented people are the most valuable resource of an organization. The management sets goals, processes, and HR metrics for tracking their progress towards the goals. Successful organizations know that exceptional business performance and competitive advantage are driven by superior talent. Employees who are positively engaged have higher levels of productivity and profitability, better safety, lower absenteeism rate, high morale, and higher retention levels. The organization should use proactive strategies to combat talent management's challenge at every step, starting from hiring. The proposed model on Talent management can solve the problems of high attrition if implemented successfully. The concept of HR analytics can be applied at all four phases of the Talent management model to manage big data.

Many organizations consider the HR department as a value-added business partner. So, every enterprise needs to learn how better managed overall HR productivity and services start from hiring, compensation, benefits, training, and development to employee retention. With the help of HR analytics software tool that's Data Analytics and Machine Learning enabled can show an outstanding result for every step in HR Management. Apart from the Employee Attrition algorithm, we can apply the same logic while recruiting new staff members by gathering their previous work experience data, behavioral data from social media profiles. The machine learning concept will analyze who would be a suitable candidate for that particular position.

REFERENCES

1. Barcet, A. (2010), "Innovation in services: a new paradigm and innovation model," in Gallouj, F. and Djellal, F. (Eds), The Handbook of Innovation and Services: A Multidisciplinary Perspective, Edward Elgar, Cheltenham, pp. 49-67.
2. Barlow, L. (2006), "Talent development: the new imperative?", Development and Learning in Organisations, Vol. 20 No. 3, pp. 6-9.
3. Bhatnagar, J. (2007). Talent management strategy of employee engagement in Indian ITES employees: Key to retention. Employee Relations, 29: 640–663.
4. Bilgihan, A., & Nejad, M. (2015). Innovation in hospitality and tourism industries. *Journal of hospitality and Tourism Technology*.
5. Boselie, P., Dietz, G., & Boon, C. (2005). "Commonalities and contradictions in HRM and performance research. Human Resource Management Journal, 15, 67–94.
6. Boudreau, J., Hopp, W., McClain, J. O., & Thomas, L. J. (2003). On the interface between operations and human resources management. *Manufacturing & Service Operations Management*, *5*(3), 179-202.
7. Cairncross, G., & Buultjens, J. (2010). 13 Generation Y and Work in Tourism and Hospitality: Problem? What Problem?. *Tourism and generation Y*, 143.
8. Cappelli, P. (2009). A supply chain model for talent management. *People and Strategy*, *32*(3), 4-7.
9. Chambers, E. G., Foulon, M., Handfield-Jones, H., Hankin, S. M., & Michaels, E. G. (1998). The war for talent. *McKinsey Quarterly*, 44-57.
10. Cheng, M. (2017). Causal Modeling in HR Analytics: A Practical Guide to Models, Pitfalls, and Suggestions. In *Academy of Management Proceedings* (Vol. 2017, No. 1, p. 17632). Briarcliff Manor, NY 10510: Academy of Management.
11. Clunies, J. (2004). Benchmarking succession planning & executive development in higher education. *Academic Leadership: The Online Journal*, *2*(4), 3.
12. Collings, D. G., & Mellahi, K. (2009). Strategic talent management: A review and research agenda. *Human resource management review*, *19*(4), 304-313.f
13. Curado, C. (2006). Organisational learning and organisational design. *The Learning Organization*, *13*(1), 25-48.
14. https://economictimes.indiatimes.com/jobs/india-will-add-110-mn-people-to-global-workforce-by-2020 study/articleshow/6228565.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst (Assessed as on 12.02.20).
15. D. Getz (1994). "Students' work experiences, perceptions and attitudes towards careers in hospitality and tourism: A longitudinal case study in Spey Valley, Scotland", *International Journal of Hospitality Management*, 13(1), 25-37.
16. de Vos, A., & Dries, N. (2013). Applying a talent management lens to career management: The role of human capital composition & continuity. *International Journal of Human Resource Management*, 24(9), 1816–1831.
17. Dr. P. Raghunadha Reddy, P. Lakshmikeerthi (2017). 'HR Analytics' - An Effective Evidence Based HRM Tool', *International Journal of Business and Management Invention*, Vol. 6, Issue 7, pp.23-34
18. Festing, M., Schäfer, L., & Scullion, H. (2013). Talent management in medium-sized German companies: An explorative study and agenda for future research. The International Journal of Human Resource Management, 1872-1893.
19. Ford, J. K., Quiñones, M. A., Sego, D. J., & Sorra, J. S. (1992). Factors affecting the opportunity to perform trained tasks on the job. *Personnel psychology*, *45*(3), 511-527.

20. Gallardo-Gallardo, E., Dries, N., & González-Cruz, T. F. (2013). What is the meaning of 'talent'in the world of work?. *Human Resource Management Review*, *23*(4), 290-300.

21. Gostick, A. and Elton, C. (2007), A Carrot Principle: How the Best Managers Use Recognition to Engage their Employees, Retain Talent, and Drive Performance, Free Press, New York, NY.

22. Hunt, J.M. and Weintraub, J.R. (2002), The Coaching Manager, Sage, Thousand Oaks, CA.

23. Jithendran, K. J., & Baum, T. (2000). Human resources development and sustainability—The case of Indian tourism. *International Journal of Tourism Research*, *2*(6), 403-421.

24. Kim, Y., Williams, R., Rothwell, W. J., & Penaloza, P. (2014). A strategic model for technical talent management: A model based on a qualitative case study. *Performance improvement quarterly*, *26*(4), 93-121.

25. King, K. A. (2015). Global talent management. *Journal of Global Mobility*.

26. Latukha, M. (2014). Talent management in Russian companies: Domestic challenges and international experience. The International Journal of Human Resource Management, 1051-1075.

27. Lawler, E. E. (2008). Make human capital a source of competitive advantage. *Marshall School of Business Working Paper No. MOR*, 16-09.

28. Levenson, A. (2011). Using targeted analytics to improve talent decisions. *People and Strategy*, *34*(2), 34

29. Liyuan Liu, Sanjoosh Akkineni, Paul Story "Using HR Analytics to Support Managerial Decisions: A Case Study

30. Lewis, R. E., & Heckman, R. J. (2006). Talent management: A critical review. *Human resource management review*, *16*(2), 139-154.

31. Maria Josua 'HR Analytics Model for Effective Decision Making' ECMLG 2018 14th European Conference on Management, Leadership and Governance by Dr. Ing. Benny M.E. de Waal, Prof. Dr. Pascal.

32. Mathew, A. (2015). Talent management practices in select organizations in India. *Global Business Review*, *16*(1), 137-150.

33. Maxwell, G., Watson, S., Maxwell, G. A., & MacLean, S. (2008). Talent management in hospitality and tourism in Scotland. *International Journal of Contemporary Hospitality Management*.

34. M. Chand, and A.A. Katou, "The impact of HRM practices on organisational performance in the Indian hotel industry", Employee Relations, (2007), 29(6), 576-594.

35. Mayo, A. (2018). Applying HR analytics to talent management. *Strategic HR Review*. 17 (5). pp. 247-254.

36. M.C. Davidson, N. Timo, and Y. Wang, "How much does labour turnover cost?: A case study of Australian four-and five-star hotels", International Journal of Contemporary Hospitality Management, (2010), 22(4), 451-466.

37. McDonnell, A., Lamare, R., Gunnigle, P., & Lavelle, J. (2010). Developing tomorrow's leaders—Evidence of global talent management in multinational enterprises. *Journal of world business*, *45*(2), 150-160.

38. NSDC report (2008). "Human Resource and Skill Requirements in the Tourism Industry", Study on mapping of human resource skill gaps in India till 2022.

39. Oehley, A. M. (2007). *The development and evaluation of a partial talent management competency model* (Doctoral dissertation, Stellenbosch: University of Stellenbosch).

40. O'Leary, S., & Deegan, J. (2005). Ireland's image as a tourism destination in France: Attribute importance and performance. *Journal of travel research*, *43*(3), 247-256.

41. Pascal, C. (2004). Foreword in Schweyer, A.(ed): Talent management systems: Best practices in technology solutions for recruitment, retention and workforce planning.

42. Phillips, D. R., & Roper, K. O. (2009). A framework for talent management in real estate. *Journal of Corporate Real Estate*, *11*(1), 7-16.

43. Rasmussen; T. and Ulrich; D. (2015). "Learning from practice: How HR analytics avoid being a management fad", *Organizational Dynamics*, Vol. 44, No. 3, pp. 236 – 242.

44. Rothwell, W. J. (1994). Effective succession planning: Ensuring leadership continuity and building talent from within. New York: AMACOM.

45. Sabuncu, K. U., & Karacay, G. (2016). Exploring professional competencies for talent management in hospitality and food sector in Turkey. *Procedia-Social and Behavioral Sciences*, *235*, 443-452.

46. Santhanam, N., Kamalanabhan, T. J., Dyaram, L., & Ziegler, H. (2015). Examining the moderating effects of organizational identification between human resource practices and employee turnover intentions in Indian hospitality industry. *GSTF Journal on Business Review (GBR)*, *4*(1).

47. Schuler, R. S. (2015). The 5-C framework for managing talent. *Organizational Dynamics*, Vol. *44*1(1), pp. 47-56.

48. Schwartz, S. (2003). Mapping and interpreting cultural differences around the world. In H. Vinken, J. Soeters, & P. Ester (Eds.), Comparing cultures, dimensions of culture in a comparative perspective. Leiden, The Netherlands: Brill.

49. Shen, K. F. (2011). The analytics of critical talent management. *People & Strategy*, *34*(2), 50-57.

50. Smith, J.J. (2007), China Faces "Talent Paradox," High Employee Turnover, Society for Human Resource Management Headline News, Alexandria, VA.

51. Starbuck, W. H., & Nystrom, P. C. (1981). Why the world needs organisational design. *Journal of General Management*, *6*(3), 3-17.

52. Stoof, A., Martens, R. L., Van Merrienboer, J. J., & Bastiaens, T. J. (2002). The boundary approach of competence: A constructivist aid for understanding and using the concept of competence. *Human resource development review*, *1*(3), 345-365.

53. Subbarao, P. S. (2008). Issues and Constrains in Manpower Supply in Indian Hospitality Industry (pp. 1-15). Indian Institute of Management.

54. Sujeet N. Mishra, Dev Raghvendra Lama, Yogesh Pal (2006) "Human Resource Predictive Analytics (HRPA) for HR Management in Organizations" *INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH*, Vol. 5, Issue. 5.

55. Tajuddin, D., Ali, R., & Kamaruddin, B. H. (2015). Developing talent management crisis model for quality life of bank employees in Malaysia. *Procedia-Social and Behavioral Sciences*, *201*, 80-84.

56. Tansley, C. (2011). What do we mean by the term "talent" in talent management? *Industrial and commercial training*.

57. Tarique, I., & Schuler, R. (2012). Global talent management literature review, a special report for SHRM Foundation, SHRM, October 2012.

58. Thunnissen, M., Boselie, P., & Fruytier, B. (2013). Talent management and the relevance of context: Towards a pluralistic approach. *Human Resource Management Review*, *23*(4), 326-336.

59. Uren, L. (2007), "From talent compliance to talent commitment", Strategic HR Review, Vol. 6 No. 3, pp. 32-5.

60. Vaiman, V., Haslberger, A., & Vance, C. M. (2015). Recognizing the important role of self-initiated expatriates in effective global talent management. *Human Resource Management Review*, *25*(3), 280-286.

61. Van den Heuvel, S., & Bondarouk, T. (2017). The rise (and fall?) of HR analytics: A study into the future application, value, structure, and system support. *Journal of Organizational Effectiveness: People and Performance*, Vol. *4*, No. 2, pp. 157-178.

IMPORTANCE OF SOCIAL MEDIA ETIQUETTES IN THE MODERN BUSINESS WORLD

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ABSTRACT

'Impression' – is what every brand or company strive to create in the minds of people or its customers. This is one of the important factors to create the market and to exist in the market for a longer period. In order to achieve it social media has become a strong tool. As we see a rise in the extent of usage of social media there is also a rise in the awareness of the manner of its usage. This is called as the social media etiquettes. This has to be followed by both the employers and employees in their personal social media accounts because their actions are always inter-connected with the company's image. This paper tries to bring out the many facets of social media etiquettes.

INTRODUCTION

Marketing is a set of activities aimed at understanding the customer needs, producing the products, or providing services according to the needs and achieving customer satisfaction through after-sales services. The marketing approach has changed over the years following changing trends in society – from word-of-mouth to television and telephone commercials, from societal marketing to "guerrilla marketing," and now to social media marketing. (Bagchi & Mohanty, 2020)

In this era of digitalization, marketing has also transformed from a traditional approach to a digital approach. Marketers have started to use all the possible mediums to communicate with customers over internet sites. Hence, we witness a rise in a new domain of marketing, i.e., social media marketing. Here, various social media platforms like Facebook, Instagram, etc., are being used to keep in touch with the customers. This has been a boon to the company in terms of building a brand value or image in the market in a less expensive manner.

As every situation has two sides- a positive and negative, likewise social media had also negatively affected the company's image leading to impact the employees' career. The following case studies explain a few of such examples-

1.   A chef named Trilok Singh was fired from a restaurant in Dubai for an online threat against a student in Delhi over her views on the citizenship amendment act. This incident happened in the month of March 2020.

2.   In May 2020, an Indian named Brajkishore Gupta, who was working in Stevin Rock mining company in the UAE, had been fired due to his Facebook posts. He had posted that Indian Muslims were spreaders and praised Delhi riots as divine justice. Both these posts were treated as anti- social messages/ Islamophobic, and hence he was terminated by the company.

3.   In April 2020, the State Bank of India had notified its employer over refraining themselves from posting absurd messages regarding the bank, its operations, or the management policies on social media.

4.   In 2016, ESPN terminated its employee named Schilling due to his derogatory statements on the transgender community. The reason given by ESPN company is that it is an inclusive company and does not entertain such acts from its employees.

5.   In 2016, an employee of Bank of America had posted a racist comment on African Americans. Bank of America terminated that employee as it had received thousands of complaints regarding the comment.

6.   A woman employed at daycare posted a Facebook comment stating about her new job and her dislikes for the job. She stated her hatred of being around kids. After reading this comment, she was asked not to come for the job by her employer.

All the above case studies showcase the social media behavior of the employees in their work lives. The companies took those steps to protect their good image in society. They did not want to portray themselves as immoral, unethical, and anti- social companies. Now, companies expect their employees also to be responsible for their personal media accounts and not act

in any manner that is opposite to the company's values or objectives and tarnish the company's name.

The question that arises here is whether the companies or employers are curbing the freedom of speech of the employees? However, the companies have a different say over this issue.

OBJECTIVES

- To understand the concept of social media etiquettes.
- To know the impact of Social media etiquettes on the company and its workers

REVIEW OF LITERATURE

(Varga Elena-Iulia, 2018) The paper aims to highlight the impact of social media on both the population and the business environment. Social media is transforming the way business is carried out. Recent studies show that a huge part of consumers would be more inclined to buy more often in the future because of a brand's presence on social media.

(Irene Garcia Medina, Pedro Alvaro Correia Pereira) The study analyses the current importance of social media for digital marketing communication. It shows a case study on traditional shops that use social media to obtain competitive advantages over shopping centers in Funchal (Madeira, Portugal). The study proposes a new model of business for successful marketing strategies. Also, the article explains how to manage the associated changes and how collaborators need to get used to working in a wider and more dynamic community.

(Emerald, 2012) The study investigated the use of social media as a new investigative tool in marketing research. The researcher has analyzed the existing social marketing literature and industry practice in marketing analysis and tells that the market research profession has been affected by developments in social media.

(Luo Lili , Wang Yuan , Han Lifeng, 2013)The paper contains a study on a successful, award-winning online video marketing project at an academic library in China. The study examined the different aspects of the library's online video marketing project. Four factors that contributed to the success of the library's video marketing project were identified: base video content on the real campus life, reflecting what students experience in their everyday activities; convey content in a humorous, light-hearted, and refreshing style; employ social media to share content and engage the target audience; and partner with students.

(Satu Aaltonen, Christina Kakderi, Verena Hausmann, Aleksej Heinze, 2013) The paper identifies and discusses the problems which arose when administrating an online social media survey in 31 European countries and gives a short preliminary insight into the results. Key findings suggest the existence of different social media etiquette rules, both among countries, ages, and types of use (personal or professional use). Results also show a complete lack of response in countries where no personal networks of the research team were present. This suggests a need to develop networks initially before meaningful information exchange can commence.

(Simon Kamau, Ibrahim Suba Kamara, 2016) The study presents a mini-review of university students' views of social media etiquette and online safety, focusing on issues of practice relevant to university students in selected disciplines, focusing on those in the Health Sciences Department at the Kabianga University. An evolving emergent research design was engaged using the search strategy, using Facebook, Twitter, netiquette, patient privacy, and social media, student behavior, and the internet. Therefore, there is a need to establish national and institutional policies regarding etiquette and privacy in the use of social media in public universities and health institutions. A less generic review addressing particular disciplines and circumstances is also recommended for more input regarding social media.

RESEARCH METHODOLOGY

Real incidents in various companies and institutions around the world in case studies have been taken into consideration to study the topic. These cases showcase the inappropriate comments over social media on the employees' career and on the company's brand.

INTERPRETATION AND ANALYSIS

There is no quantitative data to analyze the numerical facts. But, depending upon many articles and case studies, the following interpretations and analyses have been made. The analysis is made through understanding the concepts of certain topics.

UNDERSTANDING SOCIAL MEDIA ETIQUETTES

Social Media, which includes Facebook, WhatsApp, Instagram, etc., has become a mode of expression. People tend to share their talents and views on all the topics on their social media accounts. This has become a mode of expression where the right to speak is exercised to a greater extent.

It is indeed a good thing that people can voice out their opinions on various issues. However, that does not end there. Now, social media has become a place for quarrels and a platform for controversies. People tend to forget that thousands of people view their posts or comments, and it impacts everyone. There are many examples where celebrities have tarnished their images due to wrong posts or comments. That is the impact of social media. Hence, a set of dos and don'ts are essential while using social media, which are the etiquettes.

IMPORTANCE OF SOCIAL MEDIA ETIQUETTES

The importance of social media etiquettes can be analyzed for different categories of society likewise.

Government:

- to preserve harmony in society.
- To provide the right information to the people.
- To handle various discrepancies of the people in a smooth manner.

General public:

- To project the goodness of oneself
- To ensure that the comments passed are not problematic to oneself and to others
- To exercise the freedom of speech/ expression in the right manner.

Employer:

- Acts as a tool to assess the personality of people while hiring them.
- To understand the mindset of employees and act accordingly.
- To build and maintain healthy relationships with the customers of the company.
- To protect the image of the company

Hence, it is necessary to follow social media etiquette by every individual because we should not forget that we are being observed by the known and unknown ones, which would gain good or bad results.

SOCIAL MEDIA ETIQUETTES AT ORGANIZATION LEVEL

As already mentioned, the behavior of the company's employees over the social media platform impacts the image of the company. Hence, nowadays, many companies would prescribe the code of conduct on social media too for their employees, resulting in termination.

ARGUMENTS IN FAVOUR OF THE ORGANIZATION

- To uphold the beliefs of the company
- To ensure the protection of goodwill of the company
- To bring about a conducive working atmosphere in the company
- To imbibe a sense of responsibility/ belongingness towards the company.

ARGUMENTS AGAINST ORGANIZATION

- Their policy acts against the constitutional rights of the right to speak.
- The employees are not the employer's property to monitor their thoughts and actions in their personal life.

Although the arguments against the organization are true, the organizations see it differently. They only state social media etiquette since the employees are a part of their organization. Their actions are directed towards the company's growth and image. Hence, until and unless the actions of the employees won't affect the company, the company would not interfere in the employees' private space.

CONCLUSION

Social media etiquettes play an important role and should be imparted to students and employees in the right manner. As a common man, it should be followed as it surely enhances the public image, and as an employee/ employer, it instills a sense of belonging towards the organization. Social media provides the platform to exercise the freedom of speech, but etiquettes show the manner in which that freedom can be used. It appears the organizations are being authoritative with their employees over their personal accounts, too, but from the company's perspective, it seems to be right. The company can take some minor actions against the employees when they feel that the behavior is not proper over the social media sites, instead of reprimanding them. Different issues must be handled differently instead of treating all the cases similarly.

On the other hand, employees are first the citizens of the country and later the organization's employees and hence are entitled to express their views. However, at the same time, one should behave responsibly as who knows what one's comment might lead to. As responsible people, we should give our opinions in a dignified manner, ensuring that such comments harm none.

REFERENCES

1. Varga Elena-Iulia, 2018. "The Importance Of Social Media," Annals - Economy Series, Constantin Brancusi University, Faculty of Economics, vol. 6, pages 80-91, December.
2. The Importance of Social Media for Commerce. A Case Study in Madeira (Portugal)
3. Irene Garcia Medina, Pedro Alvaro Correia Pereira
4. Luo, L., Wang, Y. and Han, L. (2013), "Marketing via social media: a case study", Library Hi Tech, Vol. 31 No. 3, pp. 455-466. https://doi.org/10.1108/LHT-12-2012-0141
5. Satu Aaltonen, Christina Kakderi, Verena Hausmann, Aleksej Heinze - Social media in Europe: Lessons from an online survey
6. Simon Kamau, Ibrahim Suba Kamara -Interrogating social media netiquette and online safety among university students from assorted disciplines
7. Bagchi, Chitra., Mohanty, Sagyan Sagarika. (2020, December). Marketing in the 21st Century. In Perspectives on Business Management & Economics (Vol. III, pp. 57-70). Retrieved from http://www.pbme.in/papers/77.pdf

THE GUERRILLA MARKETING TECHNIQUE

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ABSTRACT

The act of selling and promoting products and services combined with advertisements and research is termed as marketing. The primary objective of every marketing effort is to attract new customers and retain the old ones. So, several techniques and strategies have been tried and tested in this field. Guerilla marketing is one among those techniques. Guerilla marketing is a strategy used by companies to promote products and services which include an element of surprise. Many marketers now feel that traditional marketing methods like print ads, billboards are no longer effective. So, this study aims at studying the effectiveness and awareness of guerilla marketing. This study also evaluates the effectiveness of traditional marketing methods over modern strategies. The primary purpose of this paper is to stimulate further discussion among businesses and to be used in dialogue with stakeholders.

INTRODUCTION

Marketing has been playing an important role in our day-to-day life. It is a means of communicating and introducing new products and services to customers. Marketing can be viewed as a way to customer's heart. Product, Place, Promotion, and Price are the 4P's in marketing. Among those 4P's, Promotion is considered to be the most significant element as the customers need to be aware of new products. Advertising, personal selling, direct marketing etc. are the different components of the promotion mix. Customers get to know about new products mainly through advertising, a paid/non-personal form of communication. Direct marketing is now trending as the producers can directly reach their products to customers through e-mails, the internet etc., without any middleman.

Several innovations and new methods are being applied and experimented within this field of marketing. Guerilla marketing is one among them. Guerilla marketing is a type of publicity that was made popular by Conrad Levinson in his book guerilla marketing in 1984. It is mainly an advertisement strategy whereby the company or the producer uses several unconventional methods to promote the product/ service. Surprise is a major element there. This type of promotional method uses techniques to create direct contact with the customers. The ultimate aim is to make customers remember the products and services in a different manner than they are usually done. Nowadays, traditional advertising methods through television, radio etc., are losing their popularity due to new techniques and innovations in this field. Guerilla marketing aims at making a big impression among the customers about the products so that the impressed customers may make this product popular via word of mouth. It may reach many and helps in promoting the product being marketed. It is mainly an inexpensive way of promoting a product or service. The producers need to spend their valuable time, energy, and imaginative and innovative mind to promote the product. The cash inflow will be more than its outflow. Guerilla marketing can be used as a technique by new and small companies to promote their product while facing tough competition from larger firms. It is a way of influencing the subconscious mind as purchasing decisions are the quick reflex of the unconscious mind. Thus, newer techniques are being introduced day by day to attract new customers and retain existing customers.

OBJECTIVES

The main objectives of the study are;

- To know about the term Guerilla marketing.
- To know the awareness level of guerrilla marketing techniques among consumers.
- To study the effectiveness of guerilla marketing techniques.

SCOPE OF THE STUDY

The primary purpose of this paper is to stimulate further discussion among businesses and to be used in dialogue with stakeholders. This study intends to identify the awareness level of customers regarding guerilla marketing as a tool of promotion. This study also aims to identify

various techniques used to promote the product by means of guerilla marketing and its effectiveness.

RESEARCH METHODOLOGY

The present study is descriptive and conceptual in nature. It is descriptive in the sense that it tries to identify various characteristics of research objectives. Moreover, it is conceptual since it examines a literature review of past studies conducted in these fields, and also, we have analyzed various secondary sources like journals, websites, and articles to study the topic.

KEY TERMS

• **Marketing**: It can be viewed as a method of reaching new product concepts to customers. Philip Kotler, the father of marketing, views marketing as a means of satisfying the wants and needs of customers through an exchange process.

• **Guerilla marketing**: It is a promotion technique by which an element of surprise is used to attract customers. Unconventional means of communication are used to promote the product.

• **Customer perception**: It is mainly the result of marketing efforts undertaken by the companies. Customer perception means the opinion of the customer regarding the product offerings. It may be positive or sometimes negative.

REVIEW OF LITERATURE

In the paper *The effect of guerrilla advertising on consumer's ad attitude and purchase intention: a study on well-known brands* by Selam Yigit Ozhkan (2019) explores the role of guerrilla advertising on consumers' advertisement attitudes and purchase intentions on a Turkish sample and related literature. Interpreted as a breath of fresh air and a different advertising approach, relevant people in their operations have implemented guerrilla advertising to be more competitive and reach more people with less effort in the meaning of time and cost traditional advertising. Although guerrilla advertising has not been explored yet and a small number of people have benefited from it, besides being not well-known, guerrilla advertising has a lot to be discovered in further research. In

the research study *Guerrilla marketing trends for sustainable solutions: Evidence from SEM-based multivariate and conditional process*, Rizwan Raheem Ahmed jawed Qureshi Jolita Vveinhardt (2020) finds that marketing is an imperative tool for the survival and sustainable growth of any business or product. The undertaken research aims to investigate the guerrilla marketing techniques for small and medium enterprises (SMEs) and their impact on consumers' purchase decisions. Researchers also have the aim to examine the impact of brand awareness and technology as mediating and moderating variables respectively in the guerrilla marketing process. In the study conducted by Priti Jeevan (2017) in the paper A Study on Awareness and Effectiveness of 'Guerrilla Marketing Technique' – An Innovative Means of

Advertising: The ever-increasing number of similar products has made it difficult for potential customers to choose, making the price the most important criteria. Consequently, the companies became aware of the need to differentiate, starting from delivering the brand message. Therefore, the unconventional means of promotion offer a way out of the advertising clutter, creating a lasting image of the brand in the consumer's mind. This research is concentrating only on one part of unconventional ways of advertising that is guerrilla marketing.

THEORETICAL FRAMEWORK

The ever-increasing number of similar products has made it difficult for potential customers to choose, making the price the most important criteria. So, the companies became aware of the need to differentiate, starting from delivering the brand message. Therefore, the unconventional means of promotion offer a way out of the advertising strategy, creating a lasting image of the brand in the consumer's mind. This research is concentrating only on one part of unconventional ways of advertising that is guerrilla marketing. This strategy would benefit both the organizations and the consumers.

Guerrilla marketing is an advertisement strategy in which a company uses surprise and/or unconventional interactions in order to promote a product or service. It is a type of publicity.

Guerrilla marketing uses multiple techniques and practices in order to establish direct contact with the customers. One of the goals of this interaction is to cause an emotional reaction in the clients, and the ultimate goal of marketing is to get people to remember products or brands in a different way than they are accustomed to.

History of Guerrilla Marketing

Guerrilla marketing is a product of the shift to electronic media from traditional print, radio, and television marketing. Jay Conrad Levinson coined it in his 1984 book *Guerrilla Marketing*. Its goal is to create buzz about a product or brand so that it increases the likelihood that a consumer will purchase the product or service or talk about it with other potential buyers. Guerrilla marketing can be very cost-effective for small businesses, especially if they manage to create a viral marketing phenomenon.

Some examples include:

- Viral or buzz marketing
- Stealth
- Ambient
- Ambush
- Projection advertising
- Astroturfing
- Grassroots
- Wild posting

TYPES OF GUERRILLA MARKETING

1.   Ambient marketing

This type of advertising is often done by placing an interesting and attention-grabbing object along with its message somewhere with high visibility. The concept is to catch the consumer off guard by getting their attention in ways they are not used to. Magazine ads, product placement in TV and Movies, and news online are typical forms that the consumer has grown accustomed to and might be ignored. In contrast, they see a larger-than-life object or statement while on a walk to work would definitely be more memorable and effective.

2.   Ambush marketing

Ambush marketing is a marketing strategy in which an advertiser "ambushes" an event, area, or ad space to compete for exposure against other (often direct competitor) advertisers. Like this advertising billboard exchange below between luxury car brands: BMW and AUDI

3.   Stealth Marketing

Stealth marketing is the practice of marketing to consumers without their awareness. Whether it's ads you see on the edges of Facebook that's hardly noticeable anymore, to product placement in a film or TV series. Stealth marketing is everywhere, and it is almost impossible to avoid. The best practice for stealth marketing is to make it so subtle that the viewer does not notice that it's a marketing tactic.

4.   Viral/buzz marketing

Buzz marketing refers to marketing strategies in which the goal is to capture the attention of consumers and influencers to amplify the marketing message via word of mouth and social media sharing. So much that talking about the product, brand, or service becomes newsworthy, fun, and entertaining.

5.   Guerrilla projection advertising

This marketing technique is effectively a digital billboard that is projected at night onto the side of a building. This is often done without the permission of the governing bodies (council permits), or the permission from the owner of the building. These projections are displayed on the sides of buildings in high-traffic locations (people on foot and in vehicles). Guerrilla projection advertising is an effective addition to campaigns of a larger scale, like the launch of a product or service, a concert, shows, and events.

SUMMARY

No product reaches its destination where it is meant to be unless it is possible properly marketed. Thus, the role of marketing is as important as the production of a quality product. The present study focused at knowing the term guerilla marketing in much more depth. The study also aimed at finding the effectiveness of guerilla marketing techniques. The term guerilla marketing, its history, different types of guerilla marketing techniques, amongst others, are discussed in detail in the theoretical framework part. This contemporary technique of marketing is proved to be somewhat effective in countries like India.

CONCLUSION

Marketing aims at identifying customer's needs and work towards their satisfaction. The basic goal of marketing is to attract customers. Thus, several strategies are used to promote products. Traditional marketing techniques of promoting products using billboards, print media etc. are effective means of reaching customers. Guerilla marketing is a new technique of marketing aimed at reaching the products to customers in a different and unique way. The study discussed in detail guerilla marketing. The strategy is effective to some extent because customers are more aware of traditional marketing methods. Even though customers have experienced different guerilla marketing techniques, they are not completely aware of this new marketing technique. These techniques are not widely used in countries like India. So, the customers are not fully aware of this term itself. Traditional marketing techniques are found to be more effective and familiar to customers o countries like India.

References

1. Bagchi, Chitra., Mohanty, Sagyan Sagarika. (2020, December). Marketing in the 21st Century. In Perspectives on Business Management & Economics (Vol. III, pp. 57-70). Retrieved from http://www.pbme.in/papers/77.pdf
2. K Hutter, S Hoffmann (2011) Guerrilla Marketing: The Nature of the Concept and Propositions for Further Research, Asian Journal of Marketing, vol 5, p .39-52
3. A M Kaikati, J G Kaikati (2004) Stealth Marketing: How to reach Consumers Surreptitiously, California Management Review, vol 46, p. 7-20
4. Jeevan Priti (2016) The study on the effectiveness of guerilla marketing technique- An innovative means of advertising. International Journal of Management, IT and Engineering, vol 6, issue 1
5. Rizwan Raheem Ahmed jawed Qureshi Jolita Vveinhardt (2020) Guerrilla marketing trends for sustainable solutions: Evidence from SEM-based multivariate and conditional process, Journal of Business Economics and Management, Vol. 21(3), p.851-871

NIFTY SHARIAH 50 PERFORMANCE DURING COVID-19 FIRST WAVE

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ABSTRACT

Shariah-based indexes have gained popularity nowadays, as almost every stock market have their own Shariah indexes like Dow Johns Islamic index and Kaulalmbur Stock exchange sharia index. As there are several sectoral and thematic indexes, nifty sharia is a thematic index in NSE, India. There are several sharia indexes like nifty sharia 25,50 and 500. Several studies are analyzing the performance of sharia indexes using different parameters, the current study focuses on the efficiency of the nifty sharia by comparing its performance with the Nifty 50 during the recent financial crisis, due to the COVID-19 pandemic. For this study, the researcher has taken the daily stock return of the Nifty 50 and nifty sharia. The risk-adjusted return ratios like Sharpe, Treynor, and Jenson's Alpha have been taken as a proxy for the performance of the indexes. The study found that the nifty sharia has outperformed the Nifty 50 during the COVID-19 pandemic period. Considering the volatility, the Nifty Shariah was less volatile and thereby less risky during the pandemic period.

INTRODUCTION

Nifty Shariah is one of the several thematic indices on the National Stock Exchange (NSE) – a leading Indian stock exchange. The Nifty Shariah is based on Sharia Islamic laws. So the stocks which would be included in the Nifty Shariah should be compatible with Islamic laws like interest-free, no sales of alcohol or other toxic products, etc (Powell & Delong, 2014). several world indices are based on sharia like Dow Jones Islamic index in the USA and Kaulalambur stock exchange Sharia Index in Malasia. Dow Jones was the first to introduce the Islamic index in the stock market(Habib & Ul Islam, 2014). NSE has several indexes based on the sharia index Nifty Shariah 25, Nifty Shariah 50, and Nifty Shariah 500. Now the world economy and economic powers have identified the importance of Islamic indices and Islamic finance, so they are trying to introduce products and services based on the Islamic laws of sharia.

As the sharia indexes and the sharia-compliant stocks are being popular and accepted all over the world (Pranata & Nurzanah, 2015), the researcher gained interested in analyzing the performance of sharia indexes, especially in the Indian context because India is such a country a lot of sharia complaint stocks are available as listed in the market. There are several studies that analyzed the performance of Islamic indices using different methods. But the author is interested in knowing the performance of the sharia index in the recent global crisis due to the spread of the COVID-19 pandemic. The COVID-19 pandemic triggered an in-depth crisis to the economy in general and the stock markets. (Sravani & Sruthi, 2020) The stock market crashed heavily, and the stock prices declined largely. A few sectors like pharma, health care, and IT were performing well while all other sectors fell drastically.

This study compares the performance of Nifty 50 and Nifty Shariah during the COVID-19 pandemic using risk-adjusted returns. So that investors can understand the capacity of the stocks in the Nifty Shariah to understand the importance of sharia stocks during economic crisis times. The paper also evaluates the reason behind the difference between the risk-adjusted returns of Nifty Shariah and Nifty 50. The study's findings will help understand the market behavior during the bloodshed in the stock market.

REVIEW OF LITERATURE

Banani & Hidayatun, (2017) compared the performance of the Jakarta Islamic Index and Dow Jones Islamic Market Turkey along with its major market indices using the risk-adjusted methods like Sharpe, Treynor, and Jensen's and found that the Islamic index is not underperforming but outperforms the market index even though that insignificant. It seems that the Islamic index slightly outperforms.

Bassar, (2019) studied the Indonesian stock market in light of Shariah indexes and observed that the shariah trading activities have no positive impact on Shariah stocks the activities identified were trading volume, trading frequency.

Dharani, (2011) studied the Islamic index in the Indian stock market NSE, the nifty-sharia, and compared it with Nifty 50 for analyzing seasonal variations and to compare the performances of both indices. They found that there is a Ramadan effect in the sharia index. Moreover,

identified that there is no significant difference between the performance of Nifty 50 and Nifty Shariah during the study period.

Sheikh & Siddiqui, (2016) studied the indices like Nifty 500 and Nifty Shariah 500 using the parameters like return and risk. The study was conducted using the data of the financial crisis period. And found that the Nifty Shariah could generate a better return than the Nifty 50 in half of the period, but it is notable in the study that the Nifty Shariah was less volatile during the study period thereby making it suggestable to fewer risk-takers.

Habib & Ul Islam, (2014) analyzed the performance of Islamic indexes with conventional indexes in the Malaysian stock market using beta and standard deviation. And found that Islamic index has out-performed the conventional index during the crises period

OBJECTIVES

This study aims to analyze the difference in the performance of two stock market indices in the NSE based on risk-adjusted return, the same as used by Banani & Hidayatun, (2017). The study aims to understand the reason behind the differences. The indices under the study are Nifty 50 and Nifty Shariah.

METHODOLOGY

The study period consists of 01/03/2020 to 30/09/2020. The data consist of the daily values of Nifty 50 and Nifty Shariah.

For calculating the daily return of the indexes. Daily closing prices are used from that the daily returns f the indexes are calculated as follows

$$R_d = (CP_d - CP_{d-1})/ CP_{d-1}$$

To measure the risk-adjusted return, three main risk-adjusted ratios are used which are Sharpe ratio, Treynor Ratio, and Jensen's alpha. The risk-adjusted return is considered as a proxy for the performance of the indices.

Sharpe Ratio provides the return of the indices adjusted to its own volatility i.e. Standard deviation The formula for the Sharpe ratio is

$$SI_i = [(AR_i - ARFR_i)] / \sigma_i$$

The Treynor ratio provides the return adjusted to the market volatility i.e. the Beta. The formula for the Treynor ratio is

$$TI_i = [(AR_i - ARFR_i)] / \beta_i$$

The Jensens alpha provides the excess return than market return adjusted towards the market volatility. The formula for the same is

$$JAI_i = AR_i - [AR_i + \beta_i (AR_{mt} - ARFR_i)]$$

For analyzing the volatility and risk, standard deviation and the market beta are used the same method was used by Habib & Ul Islam, (2014). The Karl persons correlation analysis is used to understand the association between the indices.

ANALYSIS AND INTERPRETATIONS

The current study is based on the daily returns of the Nifty 50 index and the Nifty Shariah index.

Figure 1: Daily returns of the indices
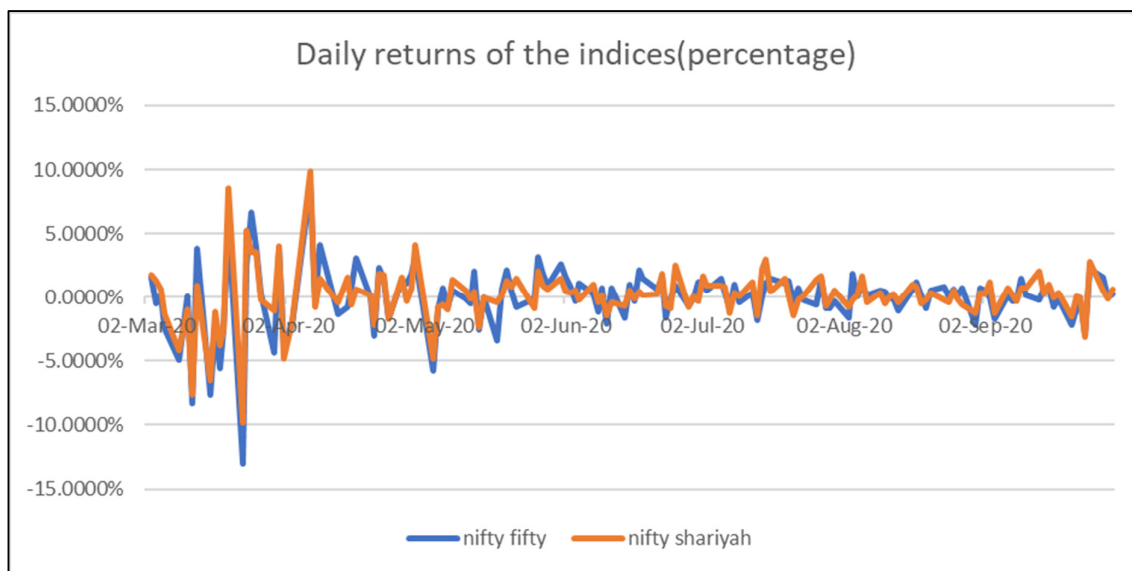
Source: Author compilation

Both indices are highly volatile during the period, especially at the beginning of the period. However, the Nifty 50 index seems to be more volatile than the Nifty Shariah index, especially in the downside volatility.

Table 1: Statistics & Overall performance

	Mean	Std. Deviation	Beta
Nifty 50	.0376%	2.45071%	1
Nifty Shariah	.1455%	2.18294%	0.99619

Source: Author compilation

During the study period, Nifty 50 return was worst hit by the mean return of 0.037% on a daily basis. But the Nifty Shariah has given a better return than the Nifty 50, with a mean return of 0.145%. Considering the volatility, the market index was riskier than Nifty Shariah. The Nifty 50 showed volatility of 2.45%, where the Nifty Shariah was less with 2.18%. So, during the first

wave of a COVID-19 pandemic, the Nifty Shariah has performed better than Nifty 50. while considering the beta, it is evident the Nifty Shariah was exposed to the market volatility

It will be interesting to know the association between Nifty Shariah and Nifty 50 during the first wave of the COVID-19 Pandemic. This shows how they moved together and the extent of their association.

Table 2: Correlation Analysis

	Correlation	Sig.
Nifty 50 & Nifty Shariah	.887	.000

Source: Author compilation

While analyzing Karl Pearson's correlational values, the Nifty 50 and Nifty Shariah were highly correlated with a positive value of .88. The Nifty can be said to be positively associated with Nifty Shariah during the pandemic period. The association is statistically significant.

To understand the performance and compare both indices, the researcher has taken the risk-adjusted return ratios as a proxy for performance. The Sharp ratio, Treynor ratio, and Alpha have been considered for the same are tabulated.

Table 3: Risk Ratios

	Sharp	Treynor	Alpha
Nifty 50	0.86%	0.02%	0.00%
Nifty Shariah	5.91%	0.13%	0.00%

Source: Author compilation

Considering the Sharpe ratio, the Nifty has performed very low compared to the Nifty Shariah, so the Nifty has given less return after adjusting to its ow volatility (standard deviation). The Treynor ratio also shows the same pattern and outperformance of the Nifty Shariah. However, the Alpha shows more or less the same result for both indices.

RESEARCH FINDINGS

The first wave of the COVID-19 pandemic has severely affected the stock markets in India. The flagship index of NSE India has fallen drastically during the early stages of the pandemic wave. And the market was highly volatile making it riskier especially for day traders. In the first months of the pandemic, Nifty seems to be more volatile than Nifty Shariah it as confirmed by the studies like (Sheikh & Siddiqui, 2016). The notable point is nifty showed more on downside volatility than Nifty Shariah. throughout the pandemic period especially during the study period, the Nifty Shariah was less volatile than the Nifty 50 exhibiting the consistency of Nifty Shariah.

The average daily return for the Nifty Shariah was far higher than the Nifty 50 during the period within average daily return of 0.037% for Nifty 50 and 0.14% for the Nifty Shariah. The Nifty Shariah suffered volatility of 2.18% which is less than the standard deviation of Nifty 50 which is 2.45% so the Nifty Shariah was more stable than Nifty Shariah during this time. From Karl Pearson's correlation coefficient, it is seen that the Nifty Shariah was positively associated with Nifty 50 which is statistically significant.

From the risk-adjusted return ratios, it is evident that the Nifty Shariah has outperformed the Nifty 50 during the period. The Sharpe ratio tells how the Nifty Shariah could generate a good return than Nifty Shariah adjusted to standard deviation. The Treynor ratio confirms the domination of the Nifty Shariah. But alpha shows more or less the same performance of both indices. This study confirms the findings of Habib & Ul Islam, (2014) The outperformance of the Nifty Shariah over Nifty 50 may have occurred due to the stocks from the financial services and media sectors being part of Nifty 50 but not part of the Nifty Shariah. The stock of finance and banks were highly affected by the pandemic. However, these stocks cannot be included in the Nifty Shariah because these are non-acceptable provisions by Sharia like interests and formidable entertainments. Most of the pharma stocks and the IT stocks are Sharia-compliant stocks. Hence, both these sectors were performing in a high mood during the pandemic period.

SUGGESTIONS AND CONCLUSIONS

The first wave of the pandemic has worst affected the stock markets in similar lines to the economies across the world. The Indian stock market was not exceptional. The Nifty 50 ill performed during the pandemic times, during which times some select sectoral and thematic indices have outperformed the Nifty 50. Nifty Shariah is one such outperformer that gave good return than Nifty 50 with less volatility. So, during the bloodsheds in the markets, thematic indices like Nifty Shariah are preferable and suggestable for investments. This would be because the worst affected sectors such as financial services and media have minor inclusion in the Nifty Shariah compared to those sectors that have ill performed during the pandemic period.

REFERENCES

1. Banani, A., & Hidayatun, N. A. (2017). Performance of Islamic Indices: Risk-Adjusted Returns of Sharia Compliant Stocks on Jakarta Islamic Index and Dow Jones Islamic Turkey. Journal Economics and Business Atmajaya Indonesia. https://doi.org/10.25170/jebi.v1i1.18

2. Bassar, T. S. (2019). Analysis of the Effect of Sharia Stock Trading Activity Factors and Macroeconomic Factors on the Performance of Sharia Stocks in the Capital Market in Indonesia. International Journal of Tax Economics and Management. https://doi.org/10.35935/tax/27.2812

3. Dharani, M. (2011). Seasonal Anomalies between S&P CNX Nifty Shariah Index and S&P CNX Nifty Index in India. Journal of Social and Development Sciences. https://doi.org/10.22610/jsds.v1i3.633

4. Habib, M., & Ul Islam, K. (2014). Performance of Shariah Compliant Index: A Comparative Study of India and Malaysia. International Journal of Interdisciplinary and Multidisciplinary Studies.

5. Investing.com, https://in.investing.com/rates-bonds/india-10-year-bond-yield-historical-data

6. NSE, https://www.nseindia.com

7. Powell, R. and DeLong, A. (2014). The Possible advantages of Islamic Financial Jurisprudence: An Empirical Study of the Dow Jones Islamic Market Index. Fordham Journal of Corporate & Financial Law. Vol. XIX, No.2, pp.393-423

8. Pranata, N., & Nurzanah, N. (2015). Conventional and Islamic indices in Indonesia: A Comparison on Performance, Volatility, and the Determinants. Indonesian Capital Market Review. https://doi.org/10.21002/icmr.v7i2.5004

9. Sheikh, S. P., & Siddiqui, S. (2016). Movement of Shariah Indices in Financial Crisis Period: Exploring Evidences from National Stock Exchange of India. Journal of Islamic Economics Banking and Finance. https://doi.org/10.12816/0028328

10. Sravani Kumari, B., & Sruthi, A. (2020, June). Impact of COVID-19 on the Indian Economy. In Perspectives on Business Management & Economics (Vol. 1, pp. 1-14). Retrieved from http://www.pbme.in/papers/3.pdf

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