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Parichay Maharaja Surajmal Institute Journal of Applied Research

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Contents

Branding & Funding Strategy of ICICI Prudential Life Insurance Company

Dr. Jyoti [1], Krishna Aggarwal[2]

ABSTRACT

This paper presents the branding & funding strategy of one of the growing companies of the insurance sector of India – ICICI PRUDENTIAL LIFE INSURANCE COMPANY. The paper includes information and study from various sources to bring best analysis of policies adopted by the company to get desired results. As insurance is becoming an essential financial product nowadays, lot of insurance companies coming to battlefield in the competition of the market and due to this, every company has to put something extra in their services and financial products provided by them to get an edge over others which can be achieved by creating strong branding and investing in High yield generating and safe investments hand in hand. And in this paper, we covered detailed interpretation and quantitative analysis of decisions taken by the management of ICICI PRUDENTIAL LIFE INSURANCE COMPANY to beat the competition and to provide best to their customers.

Keywords: Insurance, Investment analysis, Marketing strategies, quantitative analysis

INTRODUCTION

Let's first get familiar with the company overview and understand the characteristics of the company. It was founded by **Narayanan Srinivasa Kannan** in year 2000 and the company started its operations in Year 2001. ICICI PRUDENTIAL LIFE INSURANCE COMPANY LIMITED is promoted by ICICI BANK LIMITED (INDIAN) & PRUDENTIAL HOLDINGS CORPORATION LIMITED (BRITISH EST. ENTITY). It was the first insurance company to get listed on stock exchanges NSE & BSE in year 2016. The company focuses on core philosophy of customer-centricity, they offer long term savings and life protection financial assistance products with different age requirements to their customers of different ages. Asset under management (AUM) of the company stood at **Rs2404.92 Billion** at the end of March 2022. In 2008, Company became successful in selling over more than 5 million policies and in 2010, company also set up its subsidiary to manage pension related funds. The company settled Claims worth **Rs 312.37 Billion** at the end of March 2022.

OBJECTIVES OF THE STUDY

- To analyse the strategies used by company for growth in terms of branding & funding
- To understand the market competition along with quantitative analysis.

ANALYSIS AND INTERPRETATION

BRANDING STRATEGIES

ICICI PRUDENTIAL LIFE INSURANCE Mostly Win the Major Market In Insurance Sector, Through The Advertisements Through Various Platforms. Even After Winning Major Market Portion, They Still Spend 0.5% To 0.75% Of Their Business Premium for Advertisements.

- T.V. CAMPAIGN- ICICI Prudential Life Insurance Uses TV Advertisements as Their Greatest Asset with the Help of Short Films, Which Strikes Directly to Customer's Hearts and Minds. However, There Were Many Short Films Which They Had Uploaded but One of Them Is Titled "SAAT PHERE" Which Brings Immense No. Of Customers to Their Doorstep. Around 10-12 Lakh Customers Is the Number Which ICICI Prudential Life Insurance Gained Through This Short Film.
- Use of Press - ICICI Prudential Uses Press as A Medium to Break Myths or Fear of General Public to Invest in Insurance Sector with The Help Of Awareness Programme, Which Helps Them In A Way To Increase Their Number Of Customers In Indian Market.
- Use of Tech-They Also Use Modern Tech to Promote Their Insurance Cover. They Had Launched Various Apps of ICICI Group to Increase Ease of Business and Digital Literacy Among Users. They Also Launched These Apps to Attract New Customers And Also To Provide Incentives To Existing Ones. For Example, in November 2020, They Launched ICICI Pru I protect Smart and, in More Depth, They Also Launched ICICI Pru Smart Kid App, which is Basically Product Specific App Which Encourages Parents to Buy Insurance Cover Also for Their Kids or Children to increase the market consumers and convert whole family as their consumer.

USP & CONSUMER GAINING STRATEGIES

- VALUES - Their core values are Customer First, Humility, Passion, Integrity, and Boundary-lessness. Values guide their actions and define the way we work. They encourage all our colleagues to exemplify and role model the Values.

- Corporate Social Responsibility - The Company's CSR activities are primarily focused in the areas of education, health, skill development and sustainable livelihood, financial inclusion, capacity building for CSR and other activities as the Company may choose to support in fulfilling its CSR objectives. The Company supports programs and initiatives keeping "protection" as the core proposition and cornerstone of all its CSR initiatives since "protection" is core to the Company's business.
- Claim Settlement Ratio in FY 2017-18 is 97.88%
- One Day Life Claim Settlement Facility Assurance of Growth+security
- All In One Term Plan Which Was Their Biggest Move In This Pandemic Era Of COVID-19 Where They Provide LIFE COVER+34 CRITICAL DISEASES COVER+TAX-FREE CLAIM.

FUNDING STRATEGIES (SOURCES OF INCOME)

We All Know That Insurance Companies Collect Premium on Annually Or Semi-annually Basis (According To Policy Terms) And In Return, They Provide Claim Facility Whenever There Is Need Like In Medical Requirements, At The Time Of Death Of Policyholder, At Maturity Of Term, E.T.C But Here The Point To Be Notice Is That How These Companies Earn While Holding These Premium Amounts.

So, Basically, They Invest This Amount In Different Types Of Asset Creation Investments And The Profit Of These Investments Depends Upon The Way Of Investment Through Company. Smarter The Investments, Higher Will Be the Profit. So, ICICI Prudential Life Insurance Become So Great Because Of Their Smart Way of Investments where they achieve to earn around **27 billion**. Here Are Their Asset Allocation of Investments.

LONG TERM INVESTMENT CLASSIFICATION ANALYSIS

Company's investments portfolio manager used a balanced strategy to safeguard themselves by reducing volatility along with generating high returns. As we can see above, company diversified its portfolio to great extent by investing premiums in variety of investment asset classes which includes both equity & debt instruments. Company parked its major part (49%) of their total investments in govt. securities and govt. issued bonds/treasury bills and debentures/bonds which provide them a fixed return on their principal amount with sure shot no risk as we all know, there is almost no chances where govt. can default. They also invest in risk instruments as around 8% of their investments in equity variables which is volatile in nature and perform according to the market performance to get high return generating assets in their portfolio. Company also takes advantage of fixed deposits in their portfolio to get secured returns. Company also invest in infrastructure projects with the medium of equity shares and debentures and bonds to up graph their capital formation and also to avoid blockage of funds and as we all know, INDIA is fast growing nation in terms of infrastructure and in long term, there is very minimal chances that infrastructure investments would give negative returns.

By keeping an eye on all this above analysis, we can conclude that company is enjoying great returns with secured portfolio which leads to availability of instant cash flow in long term and this ultimately leads to claim settlement in easy position as their claim settlement ratio stood at **97.8%,** which in return bring persistency & goodwill to the company leads to expansion of consumer base, which can be identified by Value of new business (VNB) of the business which stood at **Rs 21.63 billion** at the end of March 2022, leads to business growth.

SHORT TERM INVESTMENT CLASSIFICATION ANALYSIS

As we all know, short term investment instruments are generally for the period up to 1 year maturity and they are directly related with the liquidity and cash flow in hand. And in case above, we can clearly see the whole secured portfolio for short run where they include all debt related instruments like debentures and bonds, even the infrastructure project related investments are in medium of debentures and bonds of project specific entity. They also include fixed deposits in short term investments to bring stability and non-volatility as these instruments move irrespective of the market performance. A major part of the short run investments parked in triparty repo where company act as a middleman agent for correlation activities between two parties and bring profit in return to company. Company also involved set of mutual funds in their portfolio to bring profits out of their investments without timing the market performance.

And all these strategic investments lead to bring **205% solvency ratio** at the end of March 2022, which is a tremendous performance after being in such a competitive market of mixed economy.

Results of Their Power Branding and strategic investing

- Being No.1 in Awareness & Saliency.
- Becoming 2nd In Insurance Sector, Next Only To Lic.
- ICICI Prudential Life Insurance Have 86% Brand Recalling Today.
- Around 11% Of New Investors Have Icici Pru On Top Of Their Mind.
- Indy's Award for Excellence in Mass Communication in Matter of T.v. Advertisements.

Challenges/Barriers for the company to achieve growth

DIFFICULT TO REACH RURAL POPULATION

India's major part of population resides in rural areas of the country and it's really difficult for the company to expand or reach to rural natives for sale of the life insurance policy because of several reasons which majorly includes:

1. Income per head in rural areas as average per head income of a rural person is around Rs40, 925 annually, which is relatively very low when compared to urban

persons per head income and this is the major reason, why rural persons resist themselves to buy a life insurance policy as they are in not a financial position to pay premiums on regular intervals. This is why only 8-10% of rural people have life insurance policy in their trunks.

2. Mentality or mind-set as large no. of rural population lack basic financial literacy and because of this they just earn and consume their hard earned money in an un-planned manner and if there were any savings, they just deposit it in bank accounts rather than having a secured future for their dependents with a policy of life insurance. So, it's very difficult for the company to break this myth and sell policies to the rural people.
3. Professional assistance as there is lack of financial literacy strong graduates or professional workers in rural areas, which lead to lack of guidance and mental assistance to rural residents making them stand not so great on financial stage as they were unable to generate or enhance their income and secure their future with the use of financial instruments like life insurance.

PRICING OF THE PRODUCTS

Pricing plays an important role in this competitive and dynamic business environment and here, pricing of life insurance policies include many dynamic factors. And here life insurance pricing is a difficult process because mortality experience is undergoing a fast change due to changes in seniority, financial markets are getting more complex with the time because of uncertainties, competing alternative products affecting policy termination involving unpredictable increase in expenses, deep scientific research requirement for frequently mortality investigation and scientific research of business cycle and more complex evaluations of interest rates and impact of market fluctuations on market return.

MORTALITY SHOCKS PROTECTING

Risk arising out of these unexpected developments are huge and unpredictable like volcanoes, chemical plants, and epidemics such as HIVs, SARS and AIDs. These killer happenings may destroy the little benefits due to improvement in mortality. These are costly and critical challenges, which need industry level initiatives to get resolved. And ultimately, it's very difficult for the company to evaluate and cover these risk aspects.

KNOWLEDGE MANAGEMENT

Continuous innovation in financial services have been creating an ever growing demand for new skills to suit the organisational requirements in the changing environment. New knowledge make yesterday's knowledge obsolete which creates the problem of learning everyday nowadays, lead to increase in complexity in understanding & fulfilling customers' needs and wants. This needs various management knowledge specialization practices to solve problem and to expand business with today's customers' wants and knowledge expertise.

COMPARISON OF ICICI PRUDENTIAL LIFE INSURANCE COMPANY WITH OTHER INSURANCE MARKET PLAYERS. (AT THE END OF MARCH 2022)

Here is the comparative fundamental analysis between 4 major players of the market - ICICI Prudential life insurance Company, LIC, HDFC Life Insurance Company and SBI Life Insurance Company based on some specific and important ratios.

- Stock P/E – It is the price to earnings ratio of a stock or share of the Company, as we can see the comparison above, LIC is top ranker in this list as they are having maximum 103.55 stock p/e, followed by HDFC (98.3) and then the ICICI prudential life insurance company (93.4)
- Dividend yield - The dividend yield is a financial ratio that tells you the percentage of a company's share price that it pays out in dividends each year. In the above comparison, ICICI is at rank 1 in this analysis giving 11% as the dividend yield to its shareholders, followed by HDFC (0.30%) & SBI (0.23%)
- Debt to Equity - The debt-to-equity (D/E) ratio is used to evaluate a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholder equity. The D/E ratio is an important metric used in corporate finance. It is directly in relation with the liquidity and liability percentage of the given company. In the above analysis, the competition is only between HDFC & ICICI as the other two are govt. entities. Here the ICICI is having ratio of 0.1, which means company is having a very low percentage of debt obligations but this also means that company is under utilizing the cheaper source of income.
- Return on capital employed - Return on capital employed (ROCE) is a good baseline measure of a company's performance. ROCE is a financial ratio that shows if a company is doing a good job of generating profits from its capital. Companies have various financial resources they use to build and grow their businesses. From the above charts, it is clarified that LIC is in best position among others with giving return of 142%, followed by SBI (15.30%) , HDFC (10.80%) & least given by ICICI life insurance (7.26%)
- Operating profit margin - Operating Profit Margin is a profitability or performance ratio that reflects the percentage of profit a company produces from its operations before subtracting taxes and interest charges. Here the ICICI is drowning in negative margins among all other players, which is not a good sign as it is showing more expenses, even without charging interest & taxes than its revenue.
- Current Ratio - The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. Simply divide the company's current assets by its current liabilities. Here the LIC is having best current ratio (3.39) as it is

obvious because it is a govt. entity, followed by ICICI (0.93), SBI (1.48) & HDFC life insurance Company (0.84).

CONCLUSION

ICICI prudential life insurance company is one of the finest players of the insurance market of INDIA as they have very positive conditions in engaging new business because of their goodwill and product service facilities. Having positive results on the annual reports even in such type of era of pandemic give them an edge over other market players, which also lead investors to be bullish on the company stock. Company uses a strategic, managerial & attacking branding/marketing to connect directly to the sentiments of the heart of targeted audience to convert them into their consumers, provide them an easy and successful position in the market. Company also use or invest accumulated premium (collected by policyholders) in a very certain way to get secured and balanced return, even from such a volatile & competitive market conditions, allow them to having highly liquid and positive cash flow from their investing activities which ultimately helps company to provide hassle free and easy claim settlements which ultimately lead to low grievances rate and high customer satisfaction. Apart from positives, company also have some downsides as they have low debt to equity ratio, which is also a good sign but the company is neglecting cheaper source of income in huge contrast. And company's operating profit margin is also in negative numerical, which is not really a good sign as company is incurring more expenses than its revenue generated.

So, ultimately ICICI prudential life insurance company is a strong entity because of its branding and strategic funding strategies but they can achieve a lot more if they able to remove the problems discussed above and also if they able to remove or win the challenges to insurance companies discussed above, they may have a great future ahead and they can also beat their competitors easily.

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Strategies for Inculcation of Positive Attitude Among Students and Teachers in Winning Over Heterogeneity

Dr. Monika Singh[1]

ABSTRACT

Education is considered a significant element for promoting long term assimilation processes, it helps the learners to attain skills that will lead them to enter the employment, along with making the learners trained for jobs education also plays a vital role in shaping the outlook and character of the learner. This paper is an effort to study the various strategies that can be adopted for developing a positive attitude among the teachers as well the students to succeed over heterogeneity. A teacher can adopt strategies which are precise to instruction considering the background of the students and classroom situations or even to the teaching of any subject. These motivational strategies either can be derived from individual experience or formulated from the research findings. Through this article the author is trying to discuss methods and strategies so that practitioners may use these to help students to infuse behaviours that will help successful adjustment. Positive attitude towards heterogeneity are few instructional approaches that teach these skills and processes and will embrace accomplishment, a focus on strengths rather than a concern with weakness.

Keywords: ***Integration, positive attitude, heterogeneity, motivational strategies, practitioners.***

1. INTRODUCTION

A positive attitude helps you to explore new learning opportunities in life. Along with physical benefits positive thinking has numerous psychological, emotional, and physical benefits. The learner's goal setting, abilities to solve day to day problems related to learning and personal, beliefs towards learning, inner and external motivation towards learning all are reliant on the attitude hence, the positive attitude can support students to cope with anxiety augment students in general happiness and even boost up their immune system. Various studies also have said that optimistic thinking can influence a student's potential to solve problems and learn new things. In order to grasp, focus on tasks positive thinking assist students to feel more stress-free and happier. This positive attitude is vital for learner's success and therefore teachers must encourage and create a positive learning atmosphere to make certain that their classrooms are places where students will feel occupied and supported.

Many motivational strategies based on the individual learning styles of the learners are advocated in studies conducted in the past that helps in raising the learners approach also the studies show that the most successful educational strategies are those that adhere to their vital role .Few studies also recommend the use of technology-rich environments to motivate students for increased achievement in all subject areas, to make the most of popular culture in the classroom to enhance student motivation. The degree of homogeneity and heterogeneity among schools affects the comprehensiveness and inclusiveness of the school system and the type and scope of classroom interaction. The main objective of a classroom is to reinterpret new educational challenges and expectations that exist in the society as it is considered to be a essential and psychological space where group of individuals having different experiences and backgrounds, knowledge and expectations live together. Also it is very essential to determine the degree of school homogeneity or heterogeneity which emerge as very relevant, also since it determine the degree of multiplicity related to classroom interactions. In schools some of the notable differences in terms of heterogeneity and homogeneity of the students can be seen. Certain researches also contrast school homogeneity with heterogeneity and suggest that school severance is correlated to discrepancy admittance to the various educational resources. Some other studies also focus on how this discrepancy impact the educational performance, the socialization process through classroom interaction at both the teacher students and between the student –student levels ,the school segregation through its effect on classroom diversity.

2 .CONCEPT OF HETEROGENEITY

The meaning if heterogeneity in education can be explained with the help of the below mentioned points:

i. The difference in terms of resources, governance and goals.

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ii. Diversity among the learners on the basis of language , needs.

iii. Heterogeneity in a classroom means consisting of people from lots of diverse background would be considered having the feature of heterogeneity.

iv. Heterogeneity is the state of being different in character or content.

v. It is the practice of teaching children of diverse ages and capability level jointly in the same classroom, without isolating them or the curriculum

vi. It also deals with the different preconditions of the learners.

Fig 1. Significance of a Positive mindset in the learners:

As compared to the heterogeneous groups the homogenous ones require more planning of a lesson much more work which can overload the teachers in organising and giving lessons with a view to heterogeneity. The individual needs of the learners can be covered by learning the different learning needs which can be done by studying the concept of heterogeneity in education.

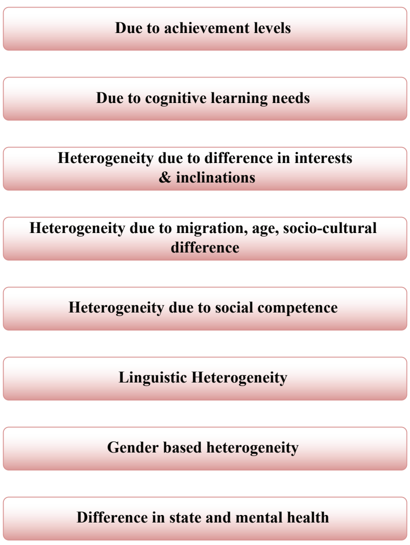

Fig 2: The heterogeneity has various categories which are as follows: -

Both the two terms heterogeneity and homogeneity are present in the learners as there are similarities and diversities both that can be seen in a classroom in terms of a range of backgrounds like social background, achievement, personal interests and gender. Solely considering only heterogeneity in the learning groups as compared to homogeneity in unrealistic. Both these concepts are like two sides of the same coin. One cannot continue to exist without the other.

1.1 COPING WITH VARIETY OF STUDENT LEARNERS VERSUS STRUCTURING OUR TEACHING AND LEARNING AROUND HETEROGENEITY:

The concept of heterogeneity of student groups must be considered not only be a focus of individual lecturers, but it must also be considered from an overall training viewpoint If noteworthy differences lay on the line, the attainment of the course competencies or study programme competencies, you should raise your concerns within the programme in order to take some needed measures to better deal with the heterogeneity. One can also impact by addressing as many learners as possible as an educator by making use of **altering content, teaching activities and learning materials**.

2.2 SOME OF THE STRATEGIES TO INCULCATE POSITIVE ATTITUDE AMONG THE LEARNERS TO WIN OVER HETEROGENEITY ARE AS FOLLOWS:

1. **Variation in teaching activities:** As an educator one can think about the diverse learning material suitable for the individual difference among the learners, hence variation in the teaching activities can be adopted as these methods have the benefit that students are given an opportunity to attain certain content at their own pace. Accordingly one must, think cautiously about which material is suitable for students to go through autonomously in advance and which should be dealt with in class. Some of the options are Blended learning or flipped classroom.
2. **Variation in content:** Students get the opportunity to obtain additional explanation and recapitulation or in depth extension and analysis of the content. Hence a common supply of learning materials and learning activities containing the basic learning material should be made available for the learners.
3. **Variation in learning materials and media:** For achieving the course competencies it is essential to mix up the learning material and also make it clear what content and materials are needed for accomplishment of your course unit, and the requirement of the additional content and materials intended for extension or more in-depth learning. Some of the variations in the content and media can be using a video or knowledge clip for giving theoretical instructions, a power point presentation can also be a good alternative for clarification of the overall structure of your lecture along with giving extra or

provide a list of articles for supplementary reading by taking into account students learning styles, attention spans and intelligences..

4. Equal status participation
5. Groupwork : Not all students need to be doing the same thing at the same time hence group work is an alternative.
6. Well documented instructional strategy
7. Formation of proper groups on the basis of maturity in terms of age, male or female, social class, racial or ethnic background & disability.
8. Providing appropriate challenges, secure environments, opportunities to explore ideas and gain mastery.
9. Learning extension by designing homework to extend the individual's understanding and application of the gained knowledge to develop their skill level.
10. Making use of various assessment options: portfolios, authentic problems to solve, oral presentations, and tests.
11. Using active learning techniques that helps students to develop cognitive and elevated opinion. Students are occupied with the material, participate in the class, and collaborate with each other.

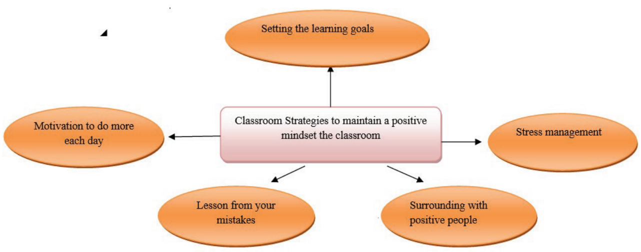

Fig 3: Some of the tips to maintain a positive attitude and mindset in the classroom

2.3 INCULCATION OF POSITIVE ATTITUDE AMONG TEACHERS IN WINNING OVER HETEROGENEITY

The state of mind is what is known as enthusiasm and the impact of a teacher's attitude and enthusiasm have an impact on the students in the classroom since *it inspires action and is the most transmittable of all emotions. Another aspect that lays a deep impact on the learners is the attitude of the teacher which is the key determinant of the overall quality of education and also is the most consistent theme that determines the equity and social justice in the classroom, this will help the teachers to believe that learning equity and access means that* all students can learn and can achieve their dream. The considerable role played towards inclusion and implementation of different strategies that helps to win over heterogeneity also relies on the positive mindset and positive teacher attitude for their learners. Teachers' attitudes are essential elements in professional competence "Baumert and Kunter, 2006". According to Olson and Fazio, 2009 attitudes are assumed to influence judgements as well as behaviour. Foe effective learning and attaining the objectives of teaching and learning a positive attitude plays a very crucial role as discussed in various studies. Maintaining positivity will make you more receptive to new thoughts and ideas and will ultimately make you learn new things. As much as possible the negative thoughts should not be allowed to alter your mood and thus interfere with the learning process this will facilitate you to keep yourself stimulated towards achieving your goals – be it academics or professional goals.

3.1 POSITIVE ATTITUDE TOWARDS TEACHING LEARNING CAN BE ACHIEVED BY FOLLOWING SOME SIMPLE STEPS.

i. The new opportunities should be explored related to learn about new things, such initiatives should be taken time to time.
ii. New skills and competencies can be improvised by trying to take up new challenges that will give you the essential exposure required in the field of teaching and learning.
iii. In order to make it possible to concentrate and achieve your goals or learning purposes all sorts of distractions and disturbances psychological and academic ones needs to be avoided at all costs.
iv. Stress management is also one good option if positive attitude and anxiety is to be maintained so that learning takes place effectively.
v. The classroom engagement and cooperation inside the classroom can be enhanced by maintaining healthy and Positive teacher-student relationships
vi. A cooperative mode of teaching can be beneficial for promoting children's development which would in turn help in fostering school performance, for ensuring this teachers can play an active role to promote in school a very positive and healthy relationship and for this teachers should put into exercise a supportive approach of teaching, act as societal referents for their students performance and keep them away from unconstructive criticism in the form of feedback to prevent further denial of the already aggressive rejected learners.

CONCLUSION

The role models to reinforce and lay the foundation of heterogeneity are the teachers .In today's modern times a large number of the learners are having a much larger issue of equity within education ,negative attitude ,stress and anxiety ,therefore the role of teachers in developing positive attitude towards winning heterogeneity in the learners as well as the teachers is essentially required and accordingly has to provide problem-solving strategies from the very foundation stage so that students can realize their problems or situations. Teachers need to better prepare for students' learning behaviour, who are in search of knowledge and contribute in other learning opportunities in many fields of their learning and social responsibility. Proper support from teachers can improve significantly the learning challenges; as long as they come within reach of diverse teaching and stimulate their students to learn and engaging them constructively will always keeps children in positive attitude through a long period of time. Moreover Faculty requires extensive training to handle active learning classes and deliver differentiated teaching in the same classroom. Utilizing time effectively is the key to the success of these strategies also to develop positive attitude among the learners.

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2. ***https://www.caisca.org/event_info/205/136_strategiesformanagingaheterogeneousclassroom.pdf***
3. ***https://www.frontiersin.org/articles/10.3389/fpsyg.2019.02832/full***
4. ***https://bidyapatibedstudy.files.wordpress.com/2021/03/role-of-teachers-in-developing-positive-attitude-towards-opposite-gender.pdf***

A Study on Positive Psychology and Education, Intervention Strategies in Preparation

Hemendra Kumar[1]

ABSTRACT

Many barriers are being faced by the educational settings of the 21st century which might be a problem on the whole teaching learning process. Social change, poverty, terrorisms, natural disasters, and the rising incidence of psychological disorders in children and adolescents. The psychological disorders are a worry that are configured as the shared space that can to a large extent contribute to cognitive, social, and emotional development of young people. As an essential resource education if this kind is developed by positive psychology which is considered as a new era of psychology. Therefore considering the importance of such an education the author through this paper has tried to study the meaning, significance of positive psychology and a variety of intervention strategies that can support the well being and mental health of the students of all the age groups, as well as the institution where the future teacher's will teach in a collaborative space. This article also is an attempt to reflect on the recent expansion of positive psychology based programs and offer insight into how a wider range of younger generation learners can be benefitted from such initiatives and how these can be more effectively later translated into classroom practices for the benefit of the learners.

Keywords: *Positive psychology, positive Education, Psychological disorders, cognitive, Intervention strategies, mental health.*

1. INTRODUCTION

Mental health, resilience and emotional well being is one thing which is considered to be the most important thing in today's time for which more emphasis is to be given to positive psychology. The positive psychology has an objective to provide the conditions and processes contributing for thriving or best possible performance of people, groups and institutions. Also important is the growth across the total years spent in school education particularly in the last two decades. This has therefore led to growing research related to the acknowledgment of the complexity of learning. There is an alteration in the conceptions of youth, education and development and due to this trend there is a rise in positive psychology. The education and school authorities are eager to integrate programs based on positive psychology .All these initiatives are essential due to a prominent prevalence of depression all over the world among the young age group children, due to small increase in life contentment and the synergy between learning and positive emotions all argue that the skill for contentment should be taught in school.

For catering to the needs of the present century generations our education system which is flexible with the alteration in practices, technologies, policies and trends it is imperative that our education system meet up the learning needs and challenges of tomorrow's students. Society is presently left looking for ways to support their needs that are experiencing mental illness and stress greater than before to meet societies demands for best possible happiness and inculcate youths with tools needed for success in whatever they do. There are numerous psychological factors that influence the educational achievements, self-confidence, self regulatory skills, study behaviours among the learners. Therefore during various stages of human growth and development like preadolescence, adolescence and into higher-level education level a student's proficiency to maintain motivation is therefore a vital factor determining one's future success as these stages in one's life is fundamental time in which an individual's learning and developmental pathway is being lined .As such a superior understanding of this developmental stage will be significant when endeavouring to encourage optimistic growth in lifelong wellbeing and implementation .As there is a growing recognition of the requirement for youth program ,alongside the rise of positive psychology in education through positive education can be seen.

1.1 IMPLICATION OF POSITIVE PSYCHOLOGY AND POSITIVE EDUCATION IN THE 21ST CENTURY FOR THE YOUNGER GENERATIONS

The meaning of positive education is to set a stage where students get the opportunity for their academic achievement along with the focus on the mental health. It is a branch of psychology that focuses on the development of individual strength instead of weakness. With the help of positive psychology which through positive education

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can develop the best in the learners so that they can achieve their utmost potential by focussing on positive states and qualities that contribute to better emotional resilience, gratitude, visualizing, success and mindfulness positive experiences, positive institutions, factors that help people achieve a sense of fulfilment and manage stress more effectively, and what contributes to people's happiness, emotional health, strengths and virtues according to Peterson, 2008; Seligman, 2009. Having positive emotions, engagements through their strengths ,competence in social and emotional well being and positive relationships will ultimately lead to educational well being ,achievements and success ,brainstorming creatively ,problem solving ability, and most importantly coping with any kind of stress and anxiety, decision making all this through the interventions of positive psychology.

1.2 POSITIVE PSYCHOLOGY THROUGH POSITIVE EDUCATION

At various stages of learning scientifically validated positive psychology initiatives in educational settings viz. Preadolescence, adolescence and later stages of one's growth and development that promote student and staff well-being. This application of positive psychology in educational settings involves selection of the strategies, prioritize, and put reasonable marker on what they want to accomplish according to the goals set by them and experience more positive emotions, satisfaction and contentment .Along with the higher education community the elemental goal of positive education is also to persuade positive mental health within the school community .Hence positive psychology is the study of happiness and wellbeing, along with conventional education principles.

There are main five elements that Perma encompasses as significant for long-term wellbeing shown in the below given figure:

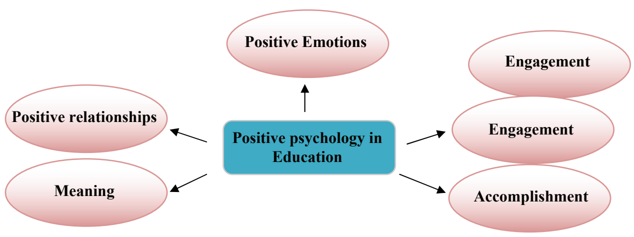

Figure 1: Five elements of positive psychology in Education

Positive characteristics along with the core character strengths like wisdom and knowledge, courage, human values, tolerance, patience etc.. are all important in today's time to be nurtured and developed.In positive education ensuring the well being of the learners is therefore the main worry, as this emotional and mental well being is supposed to be elemental in improving educational outcomes, school retention, and student commitment. In many studies it is shown also that increase in student wellbeing helps to augment the quality and quantity of student learning, as a more positive frame of mind boosts attention and motivation in students "Seligman, 2011".

For students to develop the character strengths and encouraged to examine their strengths The PERMA model of a six level implementation program is guided by a six-level implementation process and strengths-based approach.

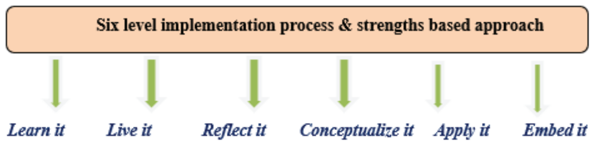

Figure-2: A Six level implementation process and strengths based approach by Kwok, 2021

1.3 SIGNIFICANCE OF POSITIVE PSYCHOLOGY:

i. Positive emotions are developed that helps to boost our job performance because of positive psychology.
ii. A single positive person can extend an undulate effect through Positive psychology as it is contagious hence will extend through the total organization.
iii. A big impact can be there on our happiness, because of small, simple actions as it doesn't take much to support your place of work to become a more contented and more optimistic place.
iv. Positive psychology action is a more distinctive idea of what "the good life" is also an advantage.

1.4 RECENT EXPANSION OF POSITIVE PSYCHOLOGY BASED PROGRAMS:

Positive psychology concentrates on positive experiences at three time points:

Scarcely information related to well being and achievement of high level thinking is there in. "Seligman and Csikszentmihalyi 2000" interestingly have given some insight on what group-level positive psychology should aim for:

1. International Positive Education Network (IPEN)
2. Positive Education Schools Association (PESA)
3. Positive Schools Initiative

The community, nation and group levels research and interventions are being ignored as the field of Positive psychology have focussed almost exclusively on the individual level well being research and intervention but there is a need to deploy an extensive range of clinical, school, and work setting.

Some of the other examples of such programs that help to develop positive attitude and well being are:

i. Yoga for self doubt
ii. Yoga for concentration
iii. Meditation for positivity

iv. Positive affirmations
v. Action for happiness
vi. Mindfulness programs
vii. Stress management exercises
viii. Feedback mechanisms
ix. Self-Management and Emotional Awareness

1.5 VARIETY OF INTERVENTION STRATEGIES:

For the prospect positive psychology interventions at the school level the implementation process as given by Kolb in the year 2021 acts as an instruction. There has been a boost in the happiness and decline in the mental health problems of the learners when this process is implemented in place.

A NUMBER OF THE STRATEGIES FOR IMPLEMENTATION OF POSITIVE PSYCHOLOGY CAN BE:

i. With an objective of focussing on the escalation of the overall well being of the learners time to time online counselling sessions through a professional counsellor can be a good option and that general interventions and approach will be there to increase overall wellbeing.
ii. Healthy and positive teacher student relationship based on strengths-based interventions can also be a good approach.
iii. Positive reinforcement in the form of appreciation and positive criticism should be given attention that can surely make a difference.
iv. Collaborative learning through group activities is also a good strategy where in students with diverse skills and competencies are split into groups so that each set of students with dissimilar strengths, team up to explore the same topics. The group activities can be in the form of games, quizzes etc. for example Jigsaw classroom is one such practice.
v. Student centred and psychology influenced curriculum can be framed where more ascendancy is given to the students to select their curriculum, and also given accountability from a much younger age.
vi. Development and increased motivation among the learners can be promoted.
vii. Online inventory of character strengths.
viii. Placing clear markers, prioritizing and helping students set their goals on what they want to achieve can be encouraged. After attaining the goals set by the learners there is a feeling of accomplishment and experience positive emotion such as fulfilment, contentment etc.
ix. To facilitate academic performance of your learners the educators can plan lessons around student strengths, needs and interest.
x. Recuperative practices in order to lessen depression in the learners.
xi. Boosting flexibility having confidence in your own competence to deal with the stresses of life can play a considerable part in resilience. Becoming more influenced and convinced in your own ability including skill to counter and deal with a crisis, is a great way to construct resilience for the future.
xii. Empathizing with the learners, teaching forgiveness can also be an effective strategy for positive psychology.
xiii. In order to ground themselves and also to help the learners for becoming more attentive, mindfulness is an excellent practice in the current moment.
xiv. Stop thinking about your past and letting go your past dissatisfaction negativity and immerse yourself in the present is what positive psychology and Positive education emphasize.

CONCLUSION

For the upliftment and development of communities and organizations positive psychology intervention are used to support individuals, thus this helps in positive growth and lifestyle. This psychology through positive education in schools recognize the importance to promote holistic happiness, and aim to enhance school learners and educational staff's welfare and flexibility as well as to extend the specific needs of learners. This kind of intrusion program has improvement in adolescent's happiness. As the studies indicate participants after completion of such programs become more positive , develop amplified self-esteem, overall well being emotionally, psychologically and physically also, that would in turn lead to improved self-efficacy, and lower anxiety and depression symptom. Since positive attitude creates the feeling of success, happiness, people practice an immense agreement of optimistic emotion be inclined to be doing well and become skilled transversely several life domain as optimistic attitude and education create the feeling of attainment and it also increase long-lasting existence.

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E-RESOURCES:

https://positivepsychology.com/positive-psychology-schools-education/#overview

NPTEL- Technology Enhance Learning Initiative

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ABSTRACT

Education for a sustainable future is a topic of intense discussion around the world. In the twenty-first century, providing equal learning opportunities has emerged as a central goal for universities and colleges everywhere. New and innovative educational initiatives, such as Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs), have arisen in recent years to satisfy the requirements of the world's expanding desire for knowledge. The National Programme on Technology Enhanced Learning (NPTEL) was founded in 2003 by the Indian Ministry of Human Resource Development (MHRD), seven Indian Institutes of Technology (IITs), and the Indian Institute of Science (IISc), to provide undergraduate students with access to courses in all of the major engineering and physical science disciplines. The purpose of this paper is to evaluate NPTEL's effectiveness and investigate its efforts to expand its course offerings. The study concluded that NPTEL facilitates creative and inventive thinking, and interactive learning, and satisfies specific learner requirements.

Keywords: NPTEL, SWAYAM, MOOCs

INTRODUCTION

Presently, the entire globe is discussing sustainable education for sustainable living. Accessible and equitable teaching opportunities are the foundation of a sustainable educational system. In addition, providing the learners with the necessary knowledge, training, and skills to be truly productive. Sustainable education would equip people with the information, abilities, and values essential for creating a future that can support human flourishing for generations to come. Higher education institutions around the world have made it a top priority in the 21st century to ensure that all students have access to quality education. Learners, however, deserve the chance to participate in high-quality programmes tailored to their interests and skill sets, ensuring that they gain the most from their educational experiences. Therefore, it is essential to determine whether the education and training are truly focused on learners' needs and adequately skill-oriented to provide them with a minimal quality of living. As a result, government initiatives in education may play a pivotal role in modernising curricula to accommodate students' requirements in the twenty-first century. In light of this, the government in a country like India are currently debating how education may be made skill-oriented, enhancing the capacities of students and preparing them to become productive citizens in the future. Developed countries have become the epicentre of world-class education due to their judicious use of online curriculum transmission and focus on more realistic educational goals. However, a growing nation like India still faces various difficulties in its efforts to provide everyone with a quality education. Regarding education, India still has many unanswered concerns, such as if the quality of education could be attained; if the inequalities in accessing education can be eliminated, and if new educational initiatives in the form of Massive Open Online Courses (MOOCs) can bring forth opportunities for persistence and reasonable learning. Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs) are the new and modern educational interventions that have emerged in recent years to meet the needs of the world's increasing desire for knowledge. Numerous policies and initiatives have been developed by the Ministry of Human Resource Development to encourage the widespread adoption of massive open online courses (MOOCs) to provide accessible, high-quality education at a low cost to India's large and diverse population.

Technology Enhanced Learning and Teaching (TELT) is a pedagogical framework for the development of educational content and an interactive information exchange system that delivers supplementary learning through interactions. Enabling, educating, and empowering each citizen and community through knowledge is the guiding principle of the TELT programme, which aims to provide quality education to all students regardless of their location. The approach is supported by a web-based e-learning platform that provides the scope of instructions for both students and teachers, facilitating more efficient two-way communication and education. The model was designed with the following objectives in mind:

1. Learning is the process of developing the ability to see abstractions, recognise patterns, make informed judgments, and take appropriate action.
2. Instructional objectives provide students with a sense of purpose, motivation, and direction.
3. Real-world activities should be incorporated into the instruction process.

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4. Bridge the gap between classroom instruction and its application in the real world (Sherly, 2010).

SWAYAM (Study Webs of Active–Learning for Young Aspiring Minds) can be considered an Indian approach to the emerging environment of web-based Open Distance e-Learning. "The Government of India's Ministry of Human Resource Development (MHRD) launched SWAYAM in 2016 to provide Indian citizens with access to massive open online courses (MOOCs) taught by faculty at institutions like the Indian Institutes of Technology and Management (IITs and IIMs) and central universities. Access, equity, and excellence are the three driving principles of India's Education Policy. SWAYAM is a government-initiated programme aimed at achieving these goals. Nine National Coordinators including the National Programme on Technology Enhanced Learning (NPTEL) for engineering; the University Grant Commission (UGC) for post-graduate education; the Consortium for Educational Communication (CEC) for undergraduate education; National Council of Educational Research and Training (NCERT) and National Institute of Open Schooling (NIOS) for school education; Indira Gandhi National Open University (IGNOU) for out-of-school students; All India Council for Technical Education (AICTE) for Annual Refresher Programme in Teaching for faculty of the Engineering/University/ Institutions; National Institute of Technical Teachers Training and Research (NITTTR) for the teacher training programme and Indian Institute of Management Bangalore (IIMB) for management studies are appointed to ensure the quality of the course contents produced and delivered through SWAYAM" (https://swayam.gov.in). No tuition fee is required for a SWAYAM course, but students must pay for and schedule in-person for the exams at approved testing centres by the due date to acquire a SWAYAM certificate. Students will only receive certificates if they meet the requirements that will be outlined on the course website. Grades or certifications obtained in these courses may be accepted for credit transfer by universities and colleges that have determined to recognise them. The UGC released a credit Framework for Online Learning Courses under SWAYAM Regulation in 2016, requiring universities to recognize SWAYAM courses for which credits may be transferred to students' academic records. In 2016, AICTE also released a gazette notification approving these courses for credit transfers.

The Ministry of Human Resource Development (MHRD) and seven Indian Institutes of Technology (IITs) (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati, and Roorkee) along with the Indian Institute of Science (IISc), Bangalore launched the National Programme on Technology Enhanced Learning (NPTEL) in 2003 to offer advanced management courses for graduate students and online and multimedia courses for undergraduates in all of the major engineering and physical science disciplines. Courses in engineering, natural sciences, and arts and social sciences can be found on NPTEL, the largest online library of its kind in the world. NPTEL's YouTube channel is the most subscribed educational channel, with over 1.4 billion views and more than 4 million subscribers. Additionally, it is the most accessed peer-reviewed instructional content repository in the world. It has provided more than 2400 completed courses and 54,900 hours of videos with English subtitles (https://nptel.ac.in).

LITERATURE REVIEW

A Paper presented at Pan-Commonwealth Forum 8 titled The Journey of SWAYAM-India MOOCs Initiative analysed the SWAYAM initiative and its execution in the Indian context, highlighting the concerns and obstacles involved. It specified that the origins of SWAYAM may be traced back to 2003 with the launch of the NPTEL which was the nation's first big attempt at E-learning through online and video courses. The paper described that SWAYAM is viewed as a self-actualization tool that offers lifelong learning opportunities. SWAYAM has the potential to play a major role in the government of India's Digital India and Skill India initiatives if it is properly planned and implemented (Kanjilal & Kaul, 2016). Saravan and Esmail in their study examine the influence of NPTEL on engineering college students and teachers in the Thiruvallur area of Tamil Nadu. It highlights the various perceptions and expectations of NPTEL subscribers. The study concluded that the majority of respondents used NPTEL for educational purposes and they believed that NPTEL is extremely valuable for teaching and research (Saravan & Esmail, 2014).

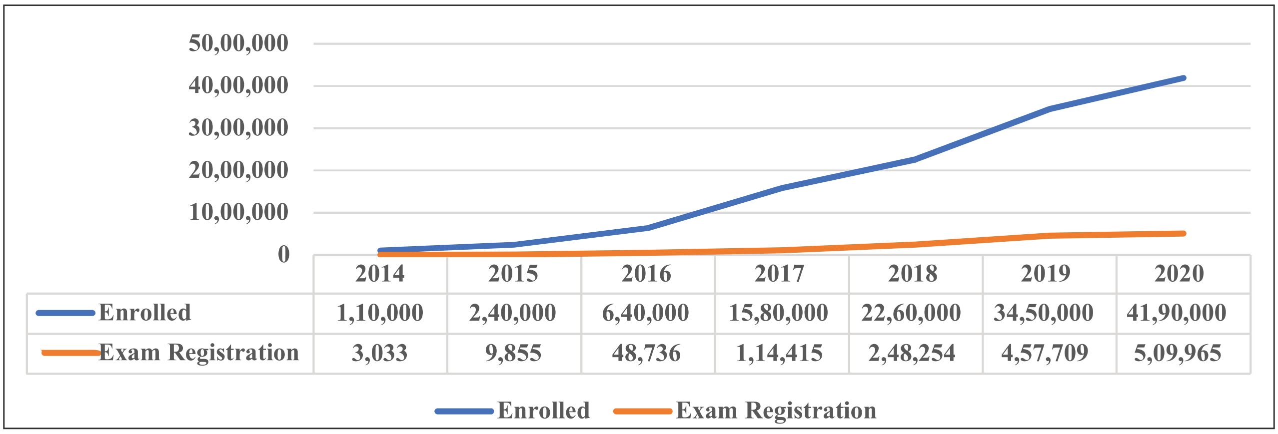
Nitonde (2018) analysed the numerous facets of NTPEL and the primary achievements of the project NTPEL. He concluded that technology-enhanced education in India demonstrates that NPTEL has fulfilled its mission. University education, technical training, distance learning, and perpetual and open learning have been the focal points of the NPTEL initiative. The well-developed and peer-reviewed core curriculum provided by the IITs and IISc has benefited a large number of those who are efficaciously engaged in industries and other fields and who require additional training and upgradation of their expertise. The author recommended that the content of NPTEL can be used as core curriculum material for training purposes (Nitonde, 2018).

OBJECTIVE OF STUDY

The purpose of this paper is to evaluate NPTEL's effectiveness in terms of student enrolment and exam registration in different courses during the years 2014-2020. and investigate its efforts to expand its course offerings. In March 2014, NPTEL launched a programme to provide students with the option to earn certification from IITs/IISc for their coursework. Additionally, the paper discusses NPTEL's initiatives to increase student enrolment in the different courses.

RESEARCH METHODOLOGY

The information on student enrolment in the various courses offered by NPTEL, exam registration and NPTEL initiatives and programs has been collected from the official website of NPTEL and SWAYAM.



	2014	2015	2016	2017	2018	2019	2020
Enrolled	1,10,000	2,40,000	6,40,000	15,80,000	22,60,000	34,50,000	41,90,000
Exam Registration	3,033	9,855	48,736	1,14,415	2,48,254	4,57,709	5,09,965

Figure 1: Students Enrolment & Exam Registration

DISCUSSION

The enrolment of students and exam registrations from 2014 to 2020 are depicted in Figure 1. The slopes of the two curves indicate that the rate of growth in student enrolment between 2014 and 2020 is greater than the rate of change in exam registration. NPTEL has implemented numerous measures to enhance enrolment and exam registration. There is a wide gap between the number of students enrolled for the course and who registered for the examination of that course. Though the exam registration as a percentage of students enrolled has increased from 2% in 2014 to 12% in 2020. This paper examines and discusses the numerous measures that NPTEL has undertaken in this regard.

Source: Compiled from data available on https://drive.google.com/file/d/1kTFJ51qVmoYQ2Qm0hN-Fld3Gt72B2YG1/view

Faculty (11%)	College Students (82%)	Industry (7%)
• Strengthening Foundation • Exploring New Domains • Faculty Development Program • Continuous Learning	• Learning From The Experts • Learning At Own Pace • Networking • Better Employability • Internships • Credit Transfer	• Recruitment Of Skilled • Job-Ready Hires • Training Of Freshers • Reskilling Of Employees

Figure 2: Reason For Joining NPTEL
Source: https://nptel.ac.in

Figure 2 displays the learner's demographics, proportions, reasons, and motivations for enrolling in NPTEL courses. According to the NPTEL report, credit transfer is the leading reason for students to join the course. Obtaining an internship or a job, updating one's knowledge in the area, conducting research, and preparing for a competitive examination are additional motivations for joining the courses. In contrast, academic members join NPTEL for research purposes, to expand their knowledge with the newest advancements in their profession or to gain insight into the operation of massive open online courses.

Almost a decade has passed since NPTEL first began offering online courses in engineering, humanities, and sciences. Starting in March 2014, students who complete NPTEL's online courses and pass the certification test will be eligible to receive a certificate issued by one of the IITs. To encourage more students to participate in the certification programme, NPTEL has established **Local Chapters** in colleges, with the approval of college authorities, where one faculty member will serve as the Single Point of Contact (SPOC) would receive all current information regarding NPTEL initiatives and be able to provide this information to students. In addition, mentors for each course would be selected at these centres to ensure that students are actively engaged in the course, have their queries resolved, and submit their assignments or projects on time.

NPTEL has signed a Memorandum of Understanding (MOU) with 70 industry partners to find ways to reduce the disparity between the academic world and the business world. The main objective of the **Industry Associate Program** is to access, nourish and develop human resources. To achieve this objective NPTEL collaborate with industry partners to co-offer courses that will help to upskill or/ and reskill the current workforce. NPTEL offers a variety of courses that corporations can utilise to educate new hires in a variety of fields. Enhancing Soft Skills and Personality, Programming, Data Structures and Algorithms, Database Management systems, and Business English Communication are all useful courses in this respect.

NPTEL primarily produces instructional resources in the English language The vast majority of citizens (96.71%) are fluent in one of the 22 recognised languages. Many students have only had an education in their native language and may struggle to learn English to enrol in a technical programme. NPTEL has begun **translating course materials into eleven languages:** Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, and Telugu. NPTEL has completed 16,690 translated hours and 4,520+ in progress (https://nptel.ac.in). Students would benefit from having access to translated NPTEL content since it will help them adjust to their new environment and make full use of India's technical expertise. To ensure that the translated materials are suitable for students, they are reviewed timely. Students that make use of this resource help evaluate the translated information even further. The NPTEL platform allows students to rate and comment on each translation. The procedure benefits from this enhancement, being more efficient and error-free as a result. PDF scripts, E-books, captions, scrolled text, and audio recordings are the formats accessible for automatically created translations into numerous languages. One can get these add-ons free of charge and download them at any time.

To help students better **prepare for the Graduate Aptitude Test in Engineering (GATE),** NPTEL has launched a new initiative with CSR funding from Amadeus Labs Bengaluru. The purpose is to compile all information one would need to succeed in the GATE exam, from the fundamentals to tricks, from comprehensive video lectures covering the complete GATE curriculum to in-depth video explanations of previous GATE exam problems. The resource will also provide extensive feedback on the student's strengths and weaknesses through an online assessment conducted using a large question bank.

Since 2018, NPTEL has been providing paid winter/summer **internships** to learners from various colleges, universities, and institutes who have topped any of the NPTEL Online Courses (NOC) under the guidance of faculty from the IITs and IISc.

NPTEL, in conjunction with its industry partners, **waives fees** for students from low-income families. Through the support of CSR partners, more than 1,20,000 students have obtained exam fee waivers (https://nptel.ac.in).

To offer the NPTEL course toppers an opportunity to experience world-class facilities and encourage them, NPTEL initiated providing week-long **laboratory workshops** at some of the top institutions, such as the IITs, IISERs, and IIITs.

NPTEL encourages students to develop a wide range of abilities through online courses, not simply their technical competence. NPTEL provides a **Soft Skills Training Programme** that helps students prepare for careers in their chosen fields through activities including online mock interviews, aptitude tests, English language assessments, and other interactive sessions.

NPTEL's goal is to link qualified people who are looking for new opportunities with businesses that can provide them. The plan is to accomplish this by facilitating a meeting of the minds between NPTEL-certified interested individuals and company recruitment teams at mutually convenient locations around the country. Industry partners **recruit from NPTEL toppers.**

Coordinators from various local chapters will have their registration and travel expenses covered by NPTEL to attend the annual technical conference. As a result, they will be better able to help their students by upgrading their knowledge and staying current on the latest advancements in the industry.

CONCLUSION

The advent of massive open online courses has revolutionised teaching and learning, especially at universities. NPTEL provides a platform for continuous learning, enabling learners to improve and upgrade their skills and knowledge. The data revealed that both enrolment and exam registration has increased over time. This shows that NPTEL has successfully addressed the various challenges to the implementation of MOOCs in India including lack of technological infrastructure, funding, diverse population, the efficiency of courses, acceptance of MOOCs among learners and acknowledgement by academic institutions through various initiatives as discussed above. However, the ability of learners to self-motivate and self-direct is one of several factors determining the popularity and utilisation of MOOCs. Learners could be motivated more if they were asked to develop and state specific learning objectives (Milligan et al., 2013). Additionally, the success of MOOCs must not be assessed by completion rates, but by learning advantages (Murugesan et al., 2017). In conclusion, NPTEL facilitates creative and inventive thinking, as well as the exploration of novel pedagogical techniques for learner motivation, interactive learning, and the satisfaction of specific learners' requirements.

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Online Education – Opportunities with Salts of Challenges

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ABSTRACT

When COVID-19 Pandemic began, schools and colleges were among the first and foremost to shut down effective immediately. This is one place where parents don't want to take any risk or compromise in any fashion for their kids. No one knows for how long the pandemic will stay. Even though, schools and colleges have opened in various parts of the world, parents are still skeptical about sending their kids back to school while the virus is still around. While the pandemic has taught us how online education can be a way to go, it's not a deniable fact that this mode of education does come with its own set of advantages as well as challenges.

Keywords: COVID-19, Pandemic, Education, Online, Hybrid

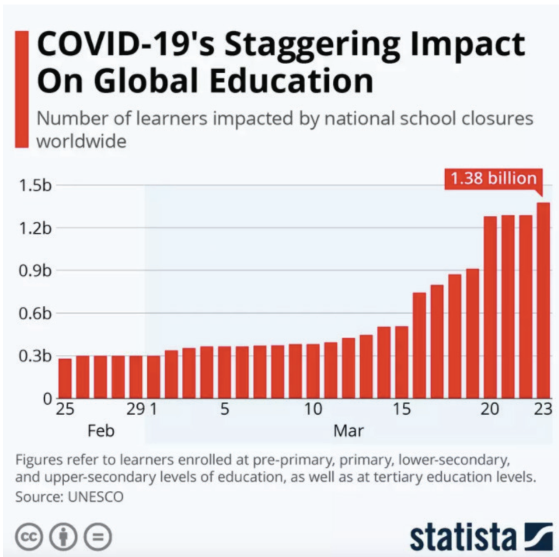
I. INTRODUCTION

[1] Even before COVID-19, education technology was seeing rapid expansion and acceptance, with worldwide EdTech investments reaching US$18.66 billion in 2019 and the whole industry for online education expected to reach $350 billion by 2025. Since COVID-19, there has been a considerable increase in utilization of language applications, virtual tutoring, video conferencing tools, and online learning software.

The pandemic has boosted the need of online education has made the sector grow by leaps and bounds. Private schools and colleges quickly jumped onto this method in an effort to make sure that the flow of learning things doesn't get affected. The government institutions also hopped onto this online education train but were relatively slow. Lack of infrastructure not just at the end of educational institutions but at the receiving end have raised questions on practicality and relative adoption in developing countries especially like India. Not only just infrastructure and reachability but the change in way of learning and teaching things, factors like internet connectivity, online fee models, resources management, etc. are all part of the debate whether such a system of education can sustain in times when the pandemic is over.

II. PANDEMIC TURNED CATALYST

Let's take example of Demonetization while keeping aside the debate of whether it was good or not when it happened back in the day, one thing we can clearly see is how it completely changed the mode in which people usually spend money now. Every small vendor from tea stall to every large vendor like McDonalds, all accept UPI as a payment option. People don't carry a lot of cash these days because they're able to make payments way more easily and conveniently. The biggest accelerators of UPI revolution were not just one but many such as – Public Awareness, need of the hour, revolutionized mobile internet with cheaper and faster data speeds, smartphones adaptability, etc. UPI and other forms of payment through mobile phones came into existence way before demonetization took place. But when a crisis came up, it became a catalyst. Similarly, online education has been there for sometime now, but the pandemic has acted as a catalyst to make its reach widespread. Not just schools, colleges and institutes, but online platforms such as Byjus, Unacademy, etc. have found a way to make a space for themselves. But is online education really that effective? Is this a good long term solution or is a hybrid solution a way to go? Questions like these are yet to be answered



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[3] Today's education system is in disarray. Children who should be in school aren't in many regions of the world even before the coronavirus pandemic; for those who are, their schools typically lack the means to give sufficient instruction. These students are losing out on the education they need to live successful lives as adults and engage in and contribute to the global economy at a time when great education is ultimately more important than ever before. When we look at the scenario of the methodology and effectiveness of education system today, we get some interesting figures, especially from the learners themselves.

[4] Only a third of the students (34%) anticipate they will graduate with the skills and competencies necessary to thrive in the job market and in the industry and only half of those polled (53%) think their degree will lead to a decent job. It's clear indicator of how this system has been in dire need of an upgrade from top to bottom.

Enter Covid-19, education institutes were the first ones to see their doors closed. Nobody anticipated that the doors would remain closed for a long duration. But as the time passed, there was a need to continue the education in some other form. It is rightly said, "Crisis brings opportunities." This was the catalyst in formation of a fresh method of education.

With India's fast growing internet population, online learning has the ability to become a suitable alternative education, but only if the government effectively plans and implements it. Many educators believe that online education will become the favored tool for learning in the future due to the multiple alternatives accessible. In the current pandemic crisis, some of the potential presented by digital training include:

While some believe that the haphazard and hasty transition to digital training – with no training, inadequate bandwidth, and little preparation – will result in a poor user experience that will hinder long-term growth, others believe that a new blended model of education will emerge, with significant benefits. "I believe that the integration of information technology in education will advance much more, and that online education will eventually become an intrinsic component of classroom instruction," Wang Tao, Vice President of Tencent Cloud and Vice President of Tencent Education, stated at World Economic Forum.

A. EMERGENCE OF TOOLS

As online education started falling into place, there was an urgent need of necessary tools to make online education as effective as it can be. Giants like Google and Microsoft were quick to jump on the train and came up with tools like Google Meet and Microsoft Teams. These two tools along with several others like these already in the market have played a crucial role in helping institutions to not only convey information but utilise some exclusive features which have made teaching several subjects or topics much more efficient. But this is not the only way online education tools are to be defined. The classification of these tools in two different ways seems more practical to discuss. While one end of the spectrum is of tools like Microsoft Teams, Google Meet, etc., the other end is of platforms like Udemy, Unacademy, BYJU's etc. The second end of the spectrum is much wider to explore. It utilizes different models of making learning much more effective in different ways. While Udemy acts as a platform to bring different educators together so that they can offer their courses at reasonable rates, on the other hand BYJUs, Unacademy, etc. act as a private educator themselves. And then there is even a third spectrum involved which is – INTERNET itself. Video platforms like YouTube, Community platforms like Reddit, Discord, etc. are all ways in which one can learn on INTERNET. It's all massive, never-ending and rich with lots of things to learn. One just needs to know what he/she wants to know about and everything can be obtained through INTERNET.

B. INCREASED ADAPTABILITY

Schools and colleges were shut down in all almost every part of the world when COVID-19 began. But if we think about schools in rural areas in many parts of the world, especially in developing or underdeveloped countries, those were essentially down even while being open from a long time, way before COVID-19 was a thing. It's because these institutions were way underdeveloped and offered negligible upliftment in terms of education. Jump forward to the arrival of COVID-19 era, when a slew of new educational breakthroughs have emerged, paving the way for widespread acceptance of remote learning. Access is a major issue. There are still other issues, including a lack of Internet connectivity in some areas, particularly rural areas, and competing needs amongst family members for home technology use. However, innovative solutions have evolved to offer students and families with the resources and facilities they need to participate in and finish coursework successfully. School buses, for example, have been used to deliver mobile hotspots, and class packages and educational lectures have been aired on regional public broadcasting stations in some areas. Closure to everything brought attention and improvement to those which essentially had nothing to begin with from a long time. Students from all over the world have been able to attend online classrooms using online conferencing platforms like Zoom and Google Meet, and presentations have been recorded for individual learners to study at their leisure. In addition, the value of hands-on, practical learning has led to advances like virtual field excursions and virtual labs. As a result, the next generation of online education can transition from an organisation that primarily serves adult learners and higher education to one that progressively serves younger students in primary and secondary school, ranging in age from 5 to 18.

C. SKILL FACTOR

The increased exposure of online education paired with a break from regular schools and colleges acted as chance for students to re-think about how they want to learn and has made them even more aware that the traditional education system hasn't necessarily been aligning much with what they are facing in real world. This has led to a shift towards Skilled Development. In the last two decades, the human species has experienced more social and technological development than in all previous centuries altogether. Things change so quickly that we hardly have time to catch our breath after one technological tsunami before another arrives and knocks us off our feet.

Each new technology today scales at a dizzying rate. It's not an acceptance curve any longer; it's an acceptance rocket. This rate is unlikely to slow down very soon, especially with AI, genetic engineering, and robotics on the horizon. Political, economic, and social structures, as well as traditional norms and social roles, are all being disrupted. With all these kind of specialised technologies taking place in day to day lives and industries, it has become even more important to take skilled trainings to work on modern problems in an efficient manner.

As the pandemic went on, more and more students started enrolling is specific skills based online courses which have enabled them to not only land great full-time jobs but also get freelance work that pays them well and more importantly keeps them engaged with deep sense of interest.

III. PRACTICAL PROBLEMS

Even though Online mode of education became the only way to continue things during pandemic, there's no denying in the fact that it comes with its own set of problems which make it crystal clear that its all not the land of dreams come true. Each solution has its other set of problems to which hybrid and collective solutions seem the only answer.

A. HEALTH AND WELLNESS

Health impacts due to being constantly in front of the screens have been in the forefront of discussion while discussing health issues because of online mode of education. Nearly 55% of kids in grades 4 to 12 have experienced health problems, primarily as a result of the pandemic's extended online study. Stress, severe vision problems, and sleeplessness are the most common health issues.

[6] According to a report based on a survey of 4,454 respondents — from various schools who were questioned about the troubles and benefits of online classes, 54-58 percent of students reported extreme physical strain, vision problems problems, backache, and headache as a result of postural problems, in addition to lethargy, fatigue, irritability, and obesity. Approximately 65 percent of students mentioned technological issues, network problems, and trouble concentrating while studying while using mobile phones, while over 50 percent reported stress and 22.7 percent reported insomnia. 45-47 percent of pupils claimed they had trouble engaging with professors and classmates, and that not everyone is visible on screen at the same time. Students also expressed decreased enthusiasm and a crisis of confidence.

[7] The most common health problems which have been identified include –

1. Eye-sight problems - Excessive screen time has put stress on the eyes, causing terrible migraines among both students and teachers.
2. Classroom ethics - The integrity of the classroom has been severely harmed. Health risks have arisen as a result of posture, inconsistency, lack of routine, and attentiveness. Prolonged sitting has also contributed to weight gain. The pupils have been anxious and frustrated since there has been little physical activity. This, too, had an effect on dietary habits, resulting in health disorders.
3. Bad ergonomics - The use of psychological and physiological concepts to the design and engineering of products, processes, and systems is known as human factors and ergonomics. Online learning has led in poor/bad ergonomics, leading in a slew of back pain and fibromyalgia-related disorders.
4. Zero Physical Activity - Obesity is a result of a lack of physical activity among youngsters. It's just gotten worse as a result of binge eating and streaming. Sedentary lifestyle has caused muscle spasms, stiffness, and calcium deficiency, among other things.
5. Vitamin D Deficiency - Interestingly, online education has led in a deficiency in Vitamin D. Lack of sunlight, a poor diet, and little exercise have resulted in a slew of issues that no one could have predicted.
6. Lack of Calcium - As strange as it may sound, a lack of physical exercise and calcium has culminated in minor injuries, which have led to more serious injuries.

Such major health issues resulted after using Online Education as the only primary mode during pandemic has made it clear that all bells and whistles are not always to get excited about in a blind fashion. It further makes it clear that even though online education brings different perspectives, methods and approaches into play, it is important to acknowledge that no method is perfect on its own. Health and Wellness impacts like heavy school bags causing back issues among young students, long travelling distances in extreme weather conditions, not so hygienic infrastructure and environment, etc. do exist in another end of the spectrum as well.

B. INFRASTRUCTURAL PROBLEMS

Schools and Colleges have physical infrastructure such as classrooms, labs, electricity and water management, etc. All these infrastructural have to paid for by the students so that all these can be maintained by the institution and can be run smoothly for everyone's benefit. Physical Infrastructure brings regular added costs like these apart from the tuition fee. Also, physical infrastructure cannot be accessed by everyone due to geographical constraints. Remote areas have been the ones facing such issues. Online Education on the other hand also requires some basic infrastructural facilities but cut downs on a lot of other added costs because the investment needed in getting online education set-up and running is way less than a building itself. All one needs is a laptop/smartphone with an internet connection. However, getting even these has been a challenge amongst poor section and people from remote areas.

[8] The world is still in the grip of the pandemic, with no end in sight. Experts anticipate that the pandemic's impacts will continue to linger, and that shutdowns in various regions of

the world may occur on an irregular basis. As a result, online learning is no longer a possibility. It has become necessary to ensure that learning continues to flow smoothly. While some instructors and learners were able to implement online learning with little difficulty, many others, particularly in underdeveloped countries, faced numerous problems.

Here are a few examples:

1. Infrastructure issues – not every student and instructor has access to laptops and PCs.
2. Availability of a stable electrical supply and a reliable internet connection
3. High internet and data costs
4. Educators and students have a lack of technical knowledge.
5. Technical problems with the internet platforms that were utilized
6. Given that the globe will not be completely free of the epidemic and its impacts, politicians and academic professionals should make establishing the framework to help online learning a top priority.

While online education brings access in remotest of areas, ability to learn anything at any place, it lacks in bringing the experience that physical labs, classes, etc. bring. Internet access as well a need to teach – "How to use these devices for education" is also something to be addressed. On the other hand, physical classes are limited in nature, bring travel times, building costs, etc. into consideration. This is exactly why no method is 100% good and a balance needs to be established to get proper hybrid education method fall into place for betterment of the students.

C. CHALLENGE DIVIDE – TEACHERS & STUDENTS

The Indian digital education business is rapidly expanding, allowing for new and creative ways of teaching and learning. However, the abrupt closure of educational institutions, as well as the hurried transition from in-person offline education to the mostly unknown and untested online digital form of education, has posed considerable issues for both teachers and students.

Some of the problems faced by the teachers include –

1. Technical knowledge deficiency: Most teachers are unaware of and untrained in how to use interactive web teaching tools, processes, and techniques effectively. Teachers, particularly in Tier II and Tier III cities, have a hard time adjusting to the demands of e-learning and holding effective virtual sessions. In truth, the majority of teachers lack fundamental computer skills as well as experience with efficient online teaching strategies.
2. Inadequate skills and exposure to processes for obtaining appropriate digital course material: Untrained teachers are constrained not only by their lack of technical capabilities, but also by their lack of skills and exposure to procedures for accessing suitable data & course material. Not only that, students have no choice but to learn how to curate course information, break it down into manageable lessons, and transform the teachings into digital form – using programmes like PPTs, Excel sheets, relevant video recordings, as well as visuals on their own.
3. Inadequate discipline monitoring: The teacher's major goal is to support quality learning among the pupils by focusing on the professionalism required for learning with as well as among others. Classroom teaching is unquestionably better adapted to maintaining proper discipline and enforcing universally understood standards in order to provide a safe and comfortable learning environment. Educators in virtual classes, on the other hand, find it hard to maintain regulation and supervise unflustered learning because they don't have to make direct eye contact with students and students don't have to adhere by ideals of studying with and among classmates.
4. The issue of keeping students involved: It is undeniably challenging for teachers to make online classrooms truly fascinating and compelling for students. The sole option for transforming students into conscience learners is to effectively use digital multi-media tools for attracting the attention of normally inattentive students. Teachers, on the other hand, must undergo intensive professional training in order for that shift to occur, which is currently not taking place.

While on the other hand, students too face their set of problems as well. Those include –

1. Digital Divide: Despite continued increases in broadband penetration and outstanding growth in the field of information technology in India, the regrettable split between the "haves" and the "have-nots" remains in place. The great majority of students do not have access to even the most basic elements of digital education since their parents can't afford virtual learning for their children. They don't have computers, cellphones, or internet connections, and they don't know how to use them. Simultaneously, there are youngsters from wealthy homes who have been exposed to and benefited from the so-called digital revolution.
2. Digital Literacy Deficiency: While children from wealthy homes are becoming increasingly tech-savvy, many pupils on the opposite side of the gap are lacking in this area. These disadvantaged youngsters have never been exposed to or are unaware of how to log in, engage in live virtual classrooms, or submit online assignments. Even basic programmes like Word processing appear challenging to these students. They must be equipped with a basic understanding of computer operation as well as hands-on experience.
3. Difficulties of abrupt shift: The abrupt move from physical mode of learning to interactive web learning has had a number of negative consequences for students. In schools, learning was essentially a social process that included teachers, peers, and others. Students are finding it difficult to adjust to the demands of online learning with no meaningful engagement with their learning

partners - classmates, teachers, and many others in the school environment. Man is just too social an animal to dwell alone. Students who are accustomed to studying in a group are frequently unable to make the necessary adaptations for the solitary online schooling style.

IV. CONCLUSION

Keeping in mind, the problem of pandemic that the world faces today, long due refreshment in educational approach, current needs of the industries and markets in terms of skills and potential problems, it is necessary to realize that either of the education models, be it offline or online is not 100% suitable for every scenario. We have seen what complete reliance on either of these methods does. Both the models bring a whole different set of advantages and problems with them. But if both models fall into place altogether, a potential to solve a lot of those issues seems within range. While online education brings openness to learn anything at any place, online education brings areas where students can gather, interact and practically learn things. A hybrid solution of openness of online and interactiveness of offline shall bring to the table what has been long overdue.

is need of the hour for governments all over the world, especially those in developing or under-developed nations to build their education systems around this hybrid methods so that students have flexibility to enjoy best of both worlds and make a better future for themselves and their nations.

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Changes in the Consumer Behaviour Due to E-commerce

Vishakha Mann[1]

ABSTRACT

With the rise of e-commerce, consumer purchasing patterns have altered dramatically in recent years. Whereas shopping in a store was formerly the preferred method of purchasing, internet shopping is rapidly becoming the preferred method of shopping for customers all over the world. E-commerce is the primary factor influencing how shopping has changed. Through the use of computers and mobile devices, e-commerce has transformed the way people make purchases by putting the buying experience at their fingertips.. The most significant impact of e-commerce on purchasing patterns is that consumers can shop at any time and from any location. To make a purchase, they are no longer required to wait for a store to open. Mobile has advanced e-commerce by allowing users to use the device at any time. Customers can choose where, when, and how to shop as a result. The product can be ordered online at midnight, delivered the following day, and then returned if the customer is dissatisfied. The capacity to design a more seamless buying experience is the strength of e-commerce.

Keywords: E-commerce, Consumer, Purchasing patterns,Online shopping

INTRODUCTION

Consumers' minds and purchasing habits are increasingly influenced by the digital world. In an online buying environment, interactive choices might affect customers' choices. Customers are becoming more interactive, and they can affect the decisions of other potential customers through online reviews. Furthermore, not only do individuals rely on reviews, but they also rely on other people's posts on social media about product recommendations. There will be a display of prevalent problems in the past, as well as some solutions or merchant remarks for customer reference.

LITERATURE REVIEW

According to the Internet and Mobile Association of India, the number of internet users in India increased by over 17% in the first half of 2015, reaching 354 million. According to IAMAI, which comprises members like Google, Microsoft, Facebook, eBay, IBM, Flipkart, Ola, and LinkedIn, the base increased to 302 million by the end of 2014 after experiencing the fastest growth of 32% in a year (The Economic Times, Sep. 3, 2015). According to Ravi Shankar Prasad, India's minister for communications and information technology, there will likely be 500 million Internet users in the country by 2017. (**Business Standard, May 5, 2016**).

The IAMAI analysis estimates that by December 2016, the Indian e-commerce market will be worth Rs. 2, 11,005 crore. Online travel in particular is anticipated to increase by almost 40% to reach 1, 22,815 crore by the end of 2016. Aside from the travel sector, e-commerce has maintained its dominance, with mobile and its accessories accounting for 57% of growth. Significant contributions also came from the computer and its accessories, clothing, fashion, online movie ticket purchasing, online shopping and meal ordering, etc. (**The Economic Times, June 7, 2016**).

The graph of e-commerce in India will continue to follow an exponential trend, according to the growing number of internet users and the e-commerce industry. However, the market is in a very competitive situation (**Goswami, S. 2014**). This competition is made even more intense by variables including low brand loyalty, price sensitivity, and services. Therefore, e-commerce businesses are working to find solutions to these issues. They are also highly successful, as evidenced by the market's acceptance of e-commerce.

OBJECTIVES

To have in depth insights into-

1. The effect of online shopping on consumer purchasing patterns
2. Advantages of E-commerce
3. Disadvantages of E-commerce

RESEARCH METHODOLOGY

The secondary data is collected from various sources to know about the impact of E-commerce on the consumer buying behaviour. For this purpose various newsletters

, reports, journals, and literature are used to gather the most recent updated information. To deal with secondary data descriptive research is done.

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RESEARCH ANALYSIS

E-commerce has multiple effects on customer purchasing decisions, both directly and indirectly. Customers are thinking about switching between e-channels as a result of the comparison to offline purchasing, which entails an increase in security, financial, and performance risks. To put it another way, people who purchase online could be at a higher risk than those who visit physical businesses. Three factors affect consumers' decision-making while making purchases. First, before receiving the items, people are unable to determine whether they satisfy their requirements and desires. Customers could also worry about the services provided after the sale. Last but not least, customers can worry that they won't fully understand the terminology used in e-commerce transactions. Customers' perceptions of risk may be a significant element influencing their online purchasing behaviour based on those considerations. Trust is another aspect that drives customer behaviour in a digital environment and is influenced by the customer's attitude and expectations. Online retailers have placed a high value on customer trust. The product design and ideas of the company fall short of what customers expect. Intent to buy from customers is influenced by both emotional and intellectual trust. Furthermore, those expectations might be influenced by details about the product as well as changes made by other people.

CHANGES IN CONSUMER BEHAVIOUR DUE TO E-COMMERCE, HOW DO THEY BEHAVE?

Today's average user is better informed than he was five years ago. Persuading a centaur is difficult, but you can get him or her to communicate. Engaging people more regularly and effectively helps get them started, which is the first step for companies to achieve their goals. You can watch them in action here.

THE CONSUMERS WILL HAVE MORE SOPHISTICATED QUERIES

The majority of e-commerce and online shopping systems have changed over time, allowing customers to be more exact in their search searches. It will be easier to get close to the exact product or response they are seeking if they are more specific. In fewer than ten years, this search behaviour has become more nuanced.

CONSUMERS WANT ALL THINGS VISUAL

In the brains of the user, visuals build quick recognition. Where words fail to communicate, clever imagery, regardless of language obstacles, communicates the idea. When a buyer is set to make a purchasing decision, he or she will try to verify the features and specs using visuals rather than looking through the data that is generally thrown at them. They are looking for simplicity, and visuals are the ideal shorthand. Visuals attract attention and encourage participation, which is why platforms like Pinterest and Instagram are so popular these days. Here's how marketers can take advantage of it.

CONSUMERS RELY ON OTHERS OPINION

Images are the first cues that allow your customer to form a mental image of your product, but the buying decision has yet to be made. This is accomplished through validation, and most buyers rely on reviews and recommendations from other users who have been exposed to the product in some way. What does this mean for marketers?

CONSUMERS DIG FOR FACTS

Pure marketing spin will never entice a consumer in the digital age. He will look for legitimate facts and will quickly switch if the data supplied do not make sense to him. Perhaps this is the point at which most consumers have explored social media and review sites and are looking for quick information.

CONSUMERS WANT TO EXPERIENCE

The idea that customer engagement with any brand is conditional is becoming obsolete. Any purchase made by a consumer is not solely for the purpose of obtaining the product's utilitarian element. Aside from the product's functioning, the consumer wants to see how the product helps them build their own personality.

CONSUMERS ARE PRICE SENSITIVE

Although the ordinary customer's purchasing power has improved, the consumer remains price sensitive. An individual may be willing to pay a higher price for perceived value but is willing to go the extra mile to ensure that a product is worthwhile. This isn't to say that pricing has never been an issue. The only difference in the digital age is that the consumer now has the ability to choose whether or not a product is worth the money.

COVID 19 AS A TURNING POINT FOR E-COMMERCE

Due to COVID-19, online customer behaviour has also changed quickly. Due to the COVID-19 pandemic, there have been significant changes in ecommerce that have led to this progression. COVID-19 ushered in a new era of retail by launching ecommerce in a time well beyond any logical or predictable expectations. The shift in the customer buying experience from in-person to online shopping characterises this new era of retail. And it happened much faster and on a far bigger scale than anyone had ever expected. Ecommerce businesses must comprehend the changing patterns in consumer purchasing behaviour brought on by the pandemic if they hope to succeed. What motivates consumers has changed over time. What do consumers currently anticipate from the end-to-end ecommerce purchasing experience? What more can businesses do to address the new demands created by this abrupt and significant change in ecommerce?

When the COVID-19 epidemic struck, ecommerce underwent a startling and unheard-of change. Customers were given orders to stay at home, and many physical stores were compelled to close. Customers then put an extraordinary and erratic demand on the online market for the goods they had previously bought in person. 84% of people increased their online shopping in 2020.

CONCLUSION

The shift in the customer buying experience from in-person to online shopping characterises this new era of retail. And it happened much faster and on a far bigger scale than anyone had ever expected. Ecommerce businesses must comprehend the changing patterns in consumer purchasing behaviour brought on by the pandemic if they hope to succeed. What motivates consumers has changed over time. What do consumers currently anticipate from the end-to-end ecommerce purchasing experience? What more can businesses do to address the new demands created by this abrupt and significant change in E-commerce?

Understanding online consumer behaviour is crucial before looking at new e-commerce trends and how to match consumer demand. At first, online retailers had a hard time keeping up with this enormous demand. Products sold out at an unprecedented rate, the supply decreased or vanished entirely, and the speed of shipping and delivery lagged. Ecommerce shops eventually started to adapt to this new, increased demand. But along with this increase in product demand, there was also a change in what consumers expected from the online shopping experience. Different patterns in online customer behaviour were produced as a result of these new expectations. The vast majority of consumers continued to use ecommerce to make purchases even when traditional brick-and-mortar retailers started to reopen. Customers learned that online buying had advantages that they liked that weren't present in the conventional offline purchasing experience. These successful online shopping occasions also aided the steady emergence of new consumer behaviour trends.

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Parichay Maharaja Surajmal Institute Journal of Applied Research

Home Automation Using IOT

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ABSTRACT

The Internet upheaval has significantly affected our lives. The Internet of Things (IoT) is the new stylish articulation in Information Technology. IoT is changing every industry and transforming real-world objects into savvy objects. The IoT plans to unite everything under a typical foundation, allowing us to control the gadgets in our surroundings, yet moreover keeping us instructed with respect to the state of the things. One can obtain home automation by associating home devices to the net or cloud storage. Home automation is gaining popularity and the reason for this high demand is its simplicity and affordability. A home computerization framework will control lighting, atmosphere, theater setups, and devices. Cloud computing provides you the platform to excess anything anytime and act as a front end to access IoT. This paper aims at lay-outing an overview of the Internet of Things, home automation, basic setup, technologies, applications, and challenges faced in adopting it. This paper also gives the light on the privacy and security aspect of IoT and focuses on providing a home computerization framework that gives the user complete control of different internet-connected devices of the home. Home automation is gradually yet consistently becoming a part of our everyday life. As time goes on, more gadgets will definitely be included, adding smarter highlights.

Keywords— Internet of Things (IoT), Home Automation system, sensors, cloud network

I. INTRODUCTION

A quick change in innovation constantly refers to serve humankind, the yearning for keeping on with an elementary yet advance lifespan keeps on growing. In today's era, we have access to televisions, music players, and many other electronic devices by just a click of their remote controls making our life and day to day routine amazingly simple and efficient. The Internet has been enhanced out to be a significant part of human life and without which we are simply helpless. Have you ever considered making your home automatic so that you can control all your home gadgets using a simple click from your Smartphone just by sitting at a spot? Of course, Yes! Today in the era of automation advancement, our lives are becoming efficient in every manner and less demanding in all the circles. New technologies square measure being introduced to avoid wasting our time. The IoT based home computerization of your gadgets is the new technology that has been recently developed. Home automation is an advanced innovation that alters your home to perform different types of work automatically. Nowadays automatic systems are in great demand than manual structures.

The prime advantage one can utilize of a smart home is solace and comfort, as more devices can manage more activities (lighting, temperature, etc.) which in turn allow the user to perform different kinds of work. It's meant to avoid wasting electricity and human vitality. The Home Robotization Framework concept differs from other frameworks by allowing users to control the framework from anywhere in the world via an internet connection. This framework is inexpensive and allows users to control their home devices from their mobile phones. IoT is one of the most important areas for future innovation and is attracting a great deal of attention from various industries. IoT is regarded as a great innovation and viewed as the outburst of a multi-trillion-dollar industry in the near future in the worldwide data industry after the technology of the Internet.

Because technology evolves at a rapid pace, it is critical that our paper incorporates current technology (IoT). Most of the work on "IoT based home automation" are yet incomplete and necessitate an ultimate implementation on field [1].

These projects are only on paper or are solely aimed at a low group for testing and development. IoT, on the other hand, is still relatively unknown, despite its enormous potential in the future [1]. As a result, systems based on Bluetooth, ZigBee, GSM, and other wireless technologies should be upgraded. This paper includes a brief overview of IoT-based home automation needs, as well as a comparison of available technologies in terms of cost, compatibility, pros and cons, so that it is easy for customers to determine the best option, which model to choose.

This paper has been organized in five sections, where Section-II is about the background of study that further contains five parts: Origin of IoT, IoT in brief, Widespread adoption of IoT, Home Automation and existing work. Section-III talks about the setting up of Home Automation System (HAS). Section-IV discusses the approach used to carry out this whole framework. Section-V represents the conclusion and future scope along with the applications of the IoT in Home automation.

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II. BACKGROUND OF STUDY

A. ORIGIN OF IOT

The proposal of accompanying gadgets belongs to the early 1830s where the first electromagnetic waves-based telegraph was designed. The telegraph-based message was sanctioned with straight communication between the two machines by the exchange of the traversed electromagnetic waves. In those days, this thought was frequently called "Embedded Internet". In the years of late 1960s, the authentic history of IoT commenced with the onset of the technology of web that grew exponentially as in the upcoming decades.

- Year 1999: A fellow benefactor, of Auto-ID (for Automatic Identification) Center at the MIT, Kevin Ashton, authored the pronouncement of "Internet of things" [4]. His sheer sense of IoT hinged on rethinking RFID as a system management revolution by linking objects to the day by day advancing web employing the RFID label. At the World Economic Forum, Bill Joy authored an approach as a constituent of the "Six Webs" assembly given by him as Device to Device (D2D) communication.
- Year 2000: The first Web-associated refrigerator, LG Internet Digital DIOS was invented in this year. It utilized a LAN port for IP (Internet Protocol) availability.
- Year 2003-2004: The expression is referenced in along standard distributions such as The Guardian, Scientific American, Boston Globe, and the Internet of Things phrase began highlighting up in the paper back's titles for the first-ever time.
- Year 2005: The employees concoct a solitary boarding microcontroller to be used in intellectual actions which were being constructed at the Interaction Design Institute Ivrea (IDII), Italy [4]. The International Telecommunications Union (ITU)issued a report on the topic "The Internet of Things".
- Year 2008-2009: The IoT was conceived in the middle of 2008 and 2009 when more "things or devices" were associated with the Internet than individuals according to the Cisco Internet Business Solutions Group. Diverse business associates were united to carve the IPSO Alliance to strengthened accompanying gadgets. This was seen as a major leap to having the Internet of Things implemented for enormous scale businesses in manufacturing setups.
- Year 2016 and yonder: By the enhancement of the technology, we were capable to have interlinked homes, interlinked vehicles, IoT accredited manufacturing implants, and succeeded in IoT constructed sunlight-based tracking devices.

The IoT has extended its arms over the endeavors and an additional up to date phrase "Enterprise IoT (EIoT) ", that integrates gadgets employed in commercial and corporate provisions. Although, it's meaning has been transformed since what Kevin Ashton had envisioned IoT to go through numerous innovation expansions, the primary rule of creating an arrangement of interconnected appliances which are cooperating through each other and the surroundings to assemble and investigate information using the network of the web has sustained as earlier.

B. IOT IN BRIEF

The Internet of Things (IoT) [11] is a structure comprising of varied physical items that are associated with the web/ internet for sharing and trading information with different appliances deprived of expecting any human-to-PC or human-to-human assistance. These gadgets are given novel identifiers for example they are implanted with sensors, software, and other advancements. Simply, the Internet of Things implies taking all the things from all around the world and associating them to the web with the goal that they can send or get data, which makes them brilliant. The "Things" in the phrase Internet of Things can be considered as a diverse type of device, for example, DNA examination devices for ecological examination, Arduino chips used in the home computerization, and several others. These gadgets collect appreciated information along with the assistance of diverse functioning advancements and offer the accumulated information among the diverse gadgets. For instance, the Home computerization framework which is used to exchange data between different household devices by utilizing Wireless Fidelity (Wi-Fi) or Bluetooth.

The main components of IoT are:

1. Hardware: Consist of sensors, actuator, and installed correspondence frameworks.
2. Middleware: On-demand stockpiling instrument and data analytical tools.
3. Presentation: Visualization and comprehension tools can be accessed across various platforms and applications.

For the complete IoT vision, an effective, secure, versatile, market-oriented computing and capacity resourcing is a must.

C. WIDESPREAD ADOPTION OF IOT:

Many of the prime factors responsible for rapid espousal of IoT are:

- *Development in connectivity & network proficiencies*: The IoT empowered various remote advances that are accessible in the market place that empowers correspondence amongst gadgets. Generally used technologies for device communication assortment from Wireless Fidelity (Wi-Fi) to Bluetooth, ZigBee to Z-Wave, and also from DECT to Thread. Moreover, all Seen, DLNA, and UPnP are empowering direct gadget network connection without the requirement of an access point.
- *Condensed costs:* The convenience of minimal price sensors alongside the slow reduction in the expense of associated gadgets has helped organizations to give a gander at IoT as a reasonable method.
- *Improvement in cloud computing:* Cloud gives a low-cost platform for storing and processing data. This revolutionary platform has made it a lot simpler, so that

some ventures grasped IoT quicker. Currently, IoT and cloud-based computing are inseparably connected and are instigated to streamline for intricate commercial issues.

- *Advancement in data handling and analytics:* Information assortment and examination are the Unique Selling Proposition (USP) of the IoT built framework, progressions in the field of data analytics, and has certainly unlocked up a lot more IoT use instances.
- *Connectivity:* Innovation of more up to date norms empowering network between IoT equipment and software from various suppliers.

Just like the famous quote, "Rome was not built in a day", development of this technology, the Internet of Things also advanced continuously all along with time, along with various attempts of analysis by experts.

D. HOME AUTOMATION

The Home Automation [16] using the Internet of Things (IoT) will sanction the user to bestow a Home Automation System reliant on the IoT. The new-fangled households are computerized by the web and the home appliances are administered. The operator commands through the web would be engaged by Wi-Fi routers also known as modem. The microcontroller associated with it has an interconnection with the modem. The progress of the framework is demonstrated over a LCD monitor, beside the framework figures. It is an Internet of Things built Home Automation framework, basically is aimed at monitoring all the household appliances.

It mainly has three significant constituents: hardware, software/applications, and communication protocols. Revamping purchaser requests, automation of the home has been expected to focus on extensive applications. Some extent of the regions where consumers can anticipate to realize it directed IoT-empowered correspondence are illuminating supervision, field or gardening administration, smart home-based gadgetry, enhanced home-based assurance and protection, home-based air standards and water eminence supervision, Artificial Intelligence based digitized responses, smart switches, smart locks, smart energy meters [18].

The smart homes hold some the following perquisites:

- Convenience: Handling all the gadgets from several different places and being efficiently able to associate all the devices in your home through a single interface is a tremendous advancement for the revolution of the innovation of technology and home administration.
- Improved appliance functionality: Connecting your gears and diverse frameworks to automation technology, it will advance your gears attainability and in all make your life substantially simpler and enjoyable.
- Security: Home based computerization frameworks can associate with the movement of several identifiers, cameras for surveillance, mechanical entry locks, and many other remote video monetary systems that provide substantial safety exertions all through your house so that you can initiate them from your own mobile device without any difficulty. It maintains high-level safety.
- Energy-efficient: Reliant upon by what means you utilize the smart home modernization; it is easily conceivable to create and modify your scope more vibrancy efficient. The lights can be easily planned according to the variation of the day. For instance, it can be programmed to the night mode as rapidly the sun sets, or as soon as you enter the room or leave the room, the lights would turn on or off automatically, so there's no necessity to stress upon the extravagant vitality or even the extended electricity bills.
- Flexibility: Being ready to incorporate the novices perfectly will create your activity as a possession holder way effortless, and allowing you to continue to one of the most recent ways of life revolution.

The main challenges of the Home Automation System incorporate high assembling charges, high formation costs, additional aids, bolster costs and huge improvement costs, absence of automation norms, handler foreignness to novelty, and multifaceted user interfaces.

One of the greatest inconveniences of a savvy home framework is the expense. You are required to have decent funds and monetary advantages to get yourself introduced to the system of home automation. The fundamental necessity for the smart home framework is the internet. Without a decent and solid web association, you won't be able to control this. On the off chance that there is no web association for some reason, there is no other path through which you can access and control your framework. For instance, if any issue with the smart home automation persists, you cannot easily fix or tackle the bug. In such cases, one would have to rely on the expert supervision. Only expert advice shall lead you for assistance with your issue.

Since technology is swiftly changing over time, rapid development in the origination of the innovation and processing power that prompts a wide-ranging reduction in gadget's price and extent. These variables are supplementary to the occurrence of microelectronic appliances in today's era, so people remain no longer befuddled to make use of computers, mobile phones, or gadgets like tablets.

E. EXISTING WORK

The main purpose of this study[7] is to help disabled and elderly people. It helps to learn how to control and secure a wide range of consumer electronics with your Android phone or tablet. It consists of an Arduino Mega ADK and an Android phone with a home automation application. A user can communicate with an Android phone by sending commands to his Arduino ADK which controls other embedded devices and sensors.

Young-Guk Ha[4] implemented a Zigbee-based intelligent automation system and tested it for security and alarm purposes. Home security uses magnetic sensors attached to doors and windows.

A smart and energy-efficient home automation system is proposed by [8] that allow users to access and control their home appliances from anywhere in the world. In this system, the internet connection module is connected to the home system's main power supply unit and can be accessed via the internet. The static IP address for wireless communication was used. Home automation is based on multimodal programs that can be controlled via Google Assistant's voice recognition feature or web-based applications. Therefore, the main goal of this project is to improve the security and intelligence of smart home systems [6].

IoT-based applications have also benefited the elderly and persons with disabilities [3], [6], [8],[10], [17]. This allows users to control home automation devices such as a fan or a light bulb without having to connect to it physically.

Agriculture [5], Coal Mine [7], Smart Grid [2], Laboratory Monitoring [9], Wearable Device [6], Ecommerce [11], and many other areas [8],[12-15] have proven a substantial contribution from small scale applications to large scale applications through IoT.

Current Bluetooth-based automation systems are inexpensive and easy to implement/install, but they are not flexible enough for environments or usable beyond a certain point. Bluetooth systems typically have a range of 0-15 meters. Additionally, from a user's perspective, Bluetooth is an outdated technology with potential compatibility issues. ZigBee-based systems [1] face the same range of problems as their applicability is limited to indoor use. LAN is the most common application of these systems. GSM-based home automation systems are not limited to smartphone usage. A regular phone is also available.

However, the system is network dependent and requires a special message format for the device to work. The implementation of the Z-Wave automation system is less straightforward and longer in scope than the ZigBee automation system. From this we can conclude that building an automated system using a simple protocol like Z-Wave is simple and straightforward. Existing home automation systems have significant challenges: These include high deployment costs, lack of communities that need flexibility, and low manageability.

III. SETTING UP HOME AUTOMATION SYSTEM (HAS)

Home automation is a way of controlling home devices automatically belonging to the accommodation of users. The revolution styles one's lifespan simpler for users, along with in turn saves energy power through utilizing appliances as specified via severe requisites. Authorities could be as vital as blackening illuminations by using a clock of your remote control or as unpredictable as assembling up an arrangement of possessions in your home which can be personalized deploying a principle regulator or even utilizing phone from any place in the world.

The Home automation model has mainly three components:

- Hardware
- Software or Applications
- Communication protocols

Individually all the parts are similarly significant in constructing the best smart home adventure for the users. Acquiring the precise equipment empowers the capacity towards creating the IoT model and reacting towards innovation turns out easily.

Another significant contemplation is firmware which exists in the hardware dealing with the information of the user, overseeing information transmission, firmware OTA amends, and accomplishing the additional basic activities to style things to work.

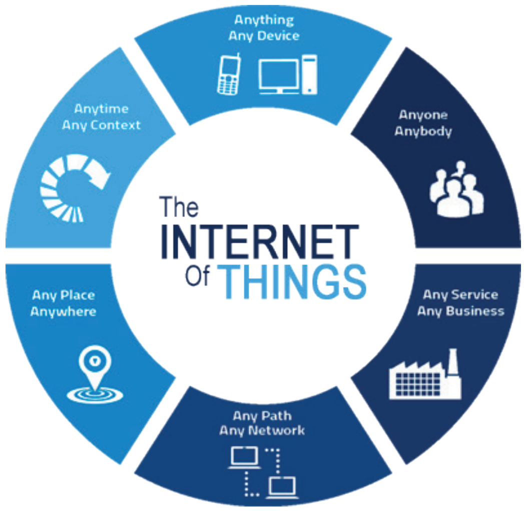

Fig. 1. The Internet of Things.

3.1. ***Basic Setup:*** An IoT-based home automation framework consists of a server and sensors. These servers are remote servers on the Internet that help monitor and process information without the need for a customized PCs [2]. A web-based server can be set up to control and monitor a variety of sensors inserted into areas of interest.

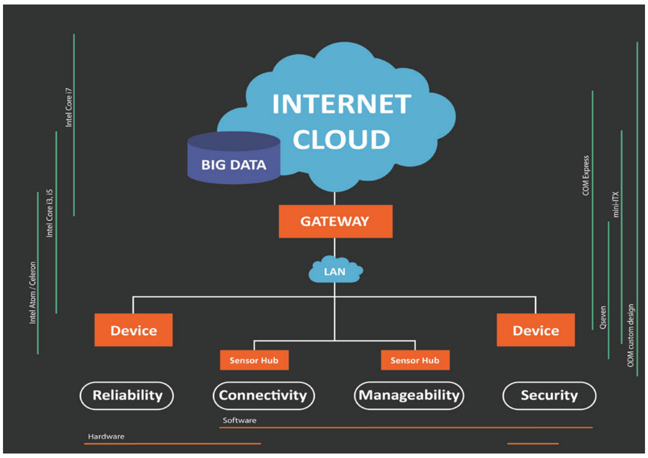

Fig. 2. Basic Architecture

3.1.1. CONTROLLER: THE BRAIN OF THE SYSTEM:

The principle controller or the hub is the most essential section of the innovation of the Home computerization framework, whether you have one sensor or many connected in your home [2]. A hub point, also called a gateway, is connected to your home router via an Ethernet connection. All IoT-based sensors send and receive orders through a central hub. Hubs return output to a cloud network located on the web.

This type of architecture allows you to convey the information to the centralized hub from remote and far off areas through your cell phone. This requires a reliable internet connection at the hub area and data package in the user mobile phone that helps the user to interface with the cloud network. The most commonly used protocols of wireless communication for home automaton are ZigBee, Z-Wave, and Wi-Fi.

3.1.2. SMART DEVICES: SENSORY ORGANS OF THE SYSTEM:

The home-based computerization encompasses numerous savvy gadgets aimed at several implementations of lighting, security, home diversion, and so forth. All of the appliances are coordinated through a distinctive arrangement established by the gateway and hence accompanying in a mesh network. All of this implies that it provides consumers the adaptableness to function one of the sensors trailed by action of the other.

Subsequently, every single sensor within a distinctive arrangement can accomplish cross-talk using principal manager unit or hub. Many of the savvy sensors in home robotization go about as sensor hubs. These are fundamentally the sign repeaters of sign bouncers which are situated in the midway among hub position foundation region along with the sensors which are present at a distant extent [2]. The sensor epicenter points perform substantial work to authorize the naive transportation of signals to the sensors of the appliance which are distant from the elementary control apparatus however at a close range to the sensor's epicenter points for significant distances. Smart Pugs are commonly used sensor centers in the home computerization framework.

3.1.3. WIRELESS CONNECTIVITY

ZigBee, Z-Wave, and Wi-Fi are frequently used communication protocols for developing a home automation framework. A system ID is being linked to ZigBee and Z-wave controllers which are conveyed to several sensors connected in a framework. The gadgets communicate with each other in a mesh topology. It has no desired path for the signs transmitted to the sensors from the hub. The signal from the hub will set out to reach the desired sensor through sign jumps, determined by the condition whether the shortest path is accessible or not. The signal will reach its destination by taking another path inside the framework if the transitional sensor is engaged somewhere. Remember that sensors with various Network IDs can't speak with one another over a normal channel.

Boasting high bandwidth, Wi-Fi is as of now essentially all over the place, developers are making smart home gadgets to work with it. The key drawback of Wi-Fi is its interference and transfer speed issues. If in case your home is loaded with Wi-Fi-associated devices, at that point the gadgets will have to compete for bandwidth and might be slower to react. Wi-Fi is also ravenous for power; thusly, battery-operated gadgets, for example, locks and sensors get drained sooner.

3.1.4. CLOUD NETWORK

The Cloud-based-Networking framework includes data storage and its preservation over the web. Thus, it gives clients the adaptability to access the information from any place in the world. Thus, in Home computerization frameworks using IoT, clients over the cloud system can send orders to the controller or hub even from a remote area. The controller further imparts the signal for the proposed sensors to trigger and play out the client mentioned activity [14]. When the activity is played out, the controller will update the status of the activity done to the cloud network and hence users can monitor and control every activity.

3.2. DESIGN CONSIDERATIONS:

Various structural difficulties and contemplations occur while designing a home automation framework and should be taken care of.

a) *Type of interface*: One should choose a protocol cautiously after correct testing. A strategic distance should be maintained from execution bottlenecks to avoid the limitations in innovation and gadget unifying capabilities. The interface is a blend of communication protocol and hardware utilized for sharing information among savvy devices and the user. A communication is set up between savvy devices, the user, and the general framework. Communication set up depends on various factors, such as usability, scope, area of a house, and so forth.Ethernet or Wi-Fi interface should be included by the architect if the savvy home devices are being controlled through the Internet. Moreover, a Bluetooth interface should be added to communicate with the gadget if the user wishes to control the home devices from their smartphones using Bluetooth. Z-wave, Zigbee, Wi-Fi, Insteon, Bluetooth Low Energy (BLE), Thread are the most commonly used protocols in the home computerization framework.

b) *Sensors required:* The necessary sensor should be installed at the correct place by the designer, keeping in mind the client's necessities.

The following sensors should be considered:

- Air conditioners, refrigerators, heating systems are controlled by thermostats.
- The moisture content in the surrounding is detected by humidity sensors.
- Gas leaks in the house are detected by gas sensors.
- The luminous intensity is detected by light sensors.

The devices are turned ON or OFF by the processor based on the information given by the sensors. This information is used by the processor to make various significant choices.

c) *Security level:* Maintaining the security level of the whole framework should be of foremost concern while planning a home computerization framework so, it can't be effectively changed to give access of the house to unauthorized users. It ought to have the option to forestall most sorts of interruption. Even if the framework gets broken into pieces, it ought to have the option to impart signs to the user and the closest police stations. It should be capable of sending and comprehending encoded information to different gadgets. Encoded information couldn't be interpreted easily and thus prevent hackers from hacking the gadgets.

d) *Topology:* It characterizes how home mechanization control units collaborate. The most ordinarily used topology is a star topology. In place of star topology, mesh topology can also be used.

Star topology uses a central control unit (CCU) associating with all the accessible remote control units (RCUs) and taking control over dynamic obligations. The information acquired by the sensor is being transmitted back to the CCU by the remote control units. After receiving the information from RCUs, the CCU evaluates the information and settles on any vital choices, and then the order is sent back to the RCU to make a particular move.

e) *Gateways:* A device sending the sensor's information to the server can't be called a home automation product. The sensor's information has to be steered through an IoT gateway because of battery and protocol constraints.

Some factors, such as communication protocols, modularity, security, configuration, real-time abilities, HTTPS support should be considered while choosing the perfect gateway.

f) *Programming languages:* The home mechanization space is ruled by programming languages, for example, Python, JavaScript, C, Shell, Go, and Embedded C.

g) *Home automation framework:* Different options are available to IoT engineers for manufacturing a more advanced generation of smart home gadgets. These structures might be open source or closed source.

Home Assistant, OpenHAB, Calaos, Domoticz, OpenMotics, LinuxMCE, PiDome, MisterHouse are the popular IoT frameworks and platforms. These are open-source frameworks and platforms.

- *Home Assistant*: It bolsters Raspberry Pi. Python is used as a programming language, and Hassbian is used as an operating system. It has disentangled mechanization protocols that can be used by designers to assemble the home computerization products, and save them from lines of code.
- *OpenHAB*: It provides an IoT portal structure to savvy homes and accompanies the gadgets to build a user interface for home computerization products. It also works well with Raspberry Pi.
- *Calaos*: Calaos was developed by an association that closed in 2013 due to their lack of support towards developing personal IoT applications. This confines its utilization by developers to fabricate top-notch solutions for buyers. Home computerization is continuously redesigned by the developers since that time.
- *Domoticz*: You can easily organize your gadgets and sensors and keep a track of them by using this platform. The entire endeavor is incredibly lightweight, and subsidized by high integrability with other frameworks. This platform work with OS such as Linux and Windows.

IV. METHODOLOGY

Implementation setup:After an effective connection, it will start reading the parameters of the sensor, for example: P1, P2, P3, etc. [3]. The desired sensor thresholds are set as T1, T2, T3, etc. and set as desired sensor thresholds. The information recorded by the sensor is transferred to a web server and stored in the cloud. If the sensor parameters are more significant than the threshold level, then specific alarms A1, A2, A3, etc [3]. are triggered at that point, completing the mandatory activations to manipulate the settings.

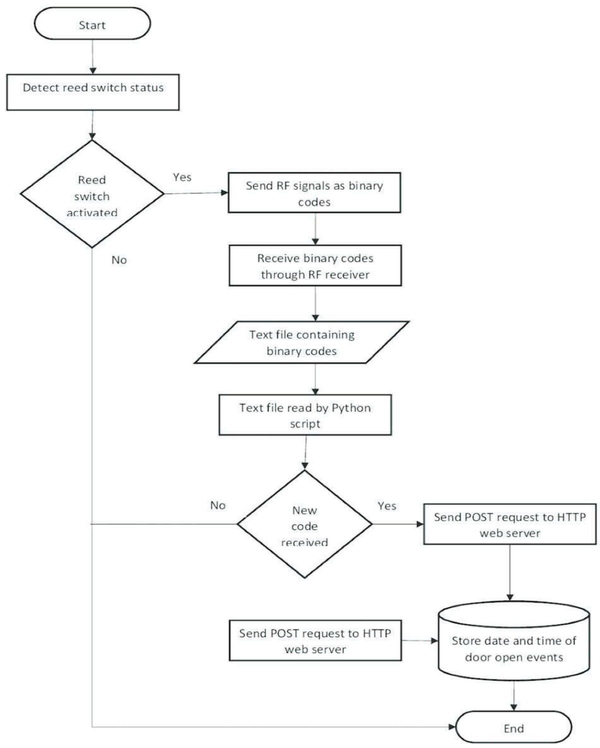

Fig. 3. Sequence of activities in HAS

A movement sensor is riveted at the entrance of the house to recognize any movement near the gateway [13]. Whenever the sensor identifies the obscurity, light will get turn on automatically. Room temperature can be controlled by putting up a sensor that will automatically turn on a fan when the temperature surpasses a set limit. The gas sensor can be installed in a kitchen that will raise an alert when a gas leakage is recognized. Electrical devices such as, light, fan, and so forth is switched using a relay.

2) *Result:* After the successful association with the web server, the information acquired by the sensor is being passed to the server for perceiving the framework. The server page will permit you to monitor and manage the

framework. The web server page will appear by entering the dolled-up IP address in the web browser.

The temperature of different areas of the home is being provided by the web server. It likewise provides the status of different electrical devices connected in the home, such as light, air conditioner, fan, and so on. All the necessary information is stored in the cloud. The stored information can be analyzed by the user at any time. The temperature is stored at various time intervals. Furthermore, it shows the condition of the movement identifier alongside the time. It also gives data about the time of movement identified and how frequently too. This data is put away in the cloud which can be checked by the client whenever away from home.

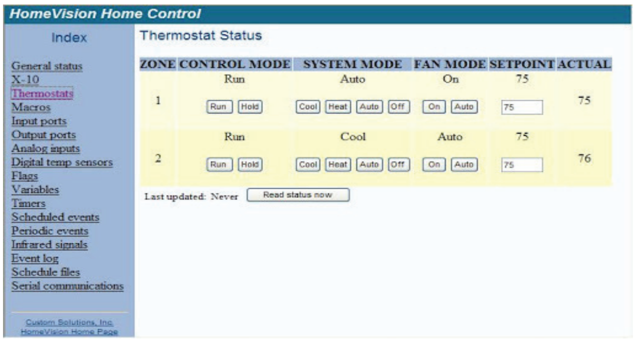

Figure 4: Web server page

CONCLUSION AND FUTURE SCOPE

IoT gadgets are becoming a part of the electronics culture and individuals are embracing smart gadgets into their homes quicker than any time in recent memory. The future of IoT is unlimited because of advances in innovation and purchasers' longing to integrate gadgets, for example, mobile phones with household machines. What's to come is going on now, and these gadgets are getting more intelligent consistently through artificial intelligence and machine learning. This has introduced modernized correspondence and frameworks organization where machines are related to gigantic frameworks. The machines related to these frameworks made the chance to offer different types of assistance.

Once a dream, home robotization is slowly but consistently becoming a part of everyday life. This is not surprising given the convenience and ease of use that familiar home devices offer. These IoT gadgets are interconnected to facilitate various tasks. IoT home devices can help reduce costs, energy, and even time. Today, there are various gadgets that take advantage of IoT. This includes indoor regulators, coolers, security frameworks, and even dryers and pots. More gadgets and smarter highlights will definitely be included as time goes on.

BRINGING THE FUTURE HOME

With the emergence of several computerization developments highlighting the Internet of Things and Artificial Intelligence, home robotization has ended up a reality. Various innovations might become a part of home in coming times:

- *Increased effectiveness and control*: Innovation proves to be more productive and one can control all the savvy devices by sitting at one central place. The savvy devices will work according to your instructions and you ought not to waste your energy and time.
- *Advancement in savvy devices*: The gadgets which we utilize every day, such as, television, air conditioner, and refrigerator is getting more astute nowadays with the progression in savvy gadgets. They will continue progressing as the innovation develops. Automate chores, for example, watering yards, opening and shutting drapes, controlling the lights and appliances and controlling the electric water radiator.
- *Unification of savvy home gadgets*: Savvy devices can be assisted through voice and Smartphone. New techniques are continuously developing to get progressions in-home computerization devices. In the coming time, our homes will be full of savvy devices making our work trouble-free and progressively precise.
- *Smart parking*: Savvy stopping through sensors will offer assistance to know whether stopping space is accessible or not and camera observing will guarantee security. It would be a speedy and trouble-free process.
- *Home delivery service*: Drone, an autonomous vehicle could be used to transport items from one place to another. Drones would be able to transport items quickly and reduce the delivery man's work. Numerous other distinctive activities could be done using drones, for example, observing the weather condition, monitoring the traffic in nearby areas, etc.

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Artificial Intelligence is Transforming Offline Retails Industry

Sundeep Kumar[1]

ABSTRACT

Artificial Intelligence (AI) is an automated, intelligent system, helping consumers find exactly what they require/ need. ML (Machine Learning) is most often discussed in retail, as it takes in countless lines of historical data and tries to find patterns and trends, as well as make precise and accurate predictions. Retail industry is transforming technologically which will change customers' shopping experiences. Companies are investing heavily to provide best online experience to its' customers and brick and mortar stores haven't changed experiences for their customers. However, physical stores / brands must adopt swiftly technology driven economy to keep the customers loyal. Retailers are transforming their businesses digitally, exploring ML technology, data infrastructure and affordable hardware to deploy across retails stores, located different locations [1,2].

INTRODUCTION:

Artificial Intelligence (AI) is used almost every tasks of every industry. AI and Machin Learning (ML) have had a real sway on CPG/retail industry, as the pandemic accelerated the requirements of AI technology to remain the market. Businesses are implementing AI to revolutionize customer experience and data analysis to improve their business decisions [1,2].

In the US, by 2022, the total sales of brick-mortar stores estimated approx. $4.5 trillion and the retailers are primarily focusing to improve the value of their physical stores using various technology of AI such as ML, data, transforming physical stores into marketing tools [1]. AI is changing the retail landscape in a number of ways. AI is helping retailers to better understand their customers through data analysis. This data can be used to improve customer service, target marketing campaigns, and personalize the shopping experience. Additionally, AI is also being used to streamline logistics and operations within retail businesses.

Companies are turning towards AI to get top position in the industry. AI provides the companies access to streams of data for improving speed, efficiency and business decisions. Now a day, many companies are investing at AI, with global annual investment expected to reach 7.3 billion by 2022. In 2023, 325,000 retailers will be using ML in some form [3].

AI has transformed retail corporations' operations/decisions in the area of stock management, marketing of online as well as offline storefront.

There are the major techniques, which retail companies are exploring to improve employee and customer experiences: Image classification, object detection, optical character recognition, human pose estimation and activity recognition[3].

As per recently done survey by Visa a significant change in the trends the retail market has experienced in the past few years [4]:

- There is approx. 82% of small businesses adjusting their operation process post-pandemic
- 65% of purchasers prefer to do payment via contactless methods

As of 2022, PwC reports that 76% of businesses have implemented AI into their business operations and this will continue grow, based on market estimates [5].

KEY TECHNIQUE OF AI USED IN THE INDUSTRY:

Computer Vision: Online businesses collect customers' behavior data on all buyers' interaction points and applying this constant adjusted data to improve offers for product mix, recommendations and promotions. However, physical stores' owners also utilize computer vision technology to gather the same of data such as their individual customer's purchase behavior data, collective customers' pattern and real-time inventory in their brick-mortar stores [1].

Computer visions and deep-learning models identify the customers' pick-up, keep back and keep in the bags or baskets. Based on the real-time pricing, the App's cart is automatically updated.

Computer vision collects digital images and automatically processes & analyses the data in, allowing machines to make decisions quick and in-real time [6].

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APPLICATIONS AND KEY BENEFITS OF AI-POWERED STORES:

Contactless Checkout: Retailers are emphasizing the contact-less shopping experience to their consumers after Covid pandemic. This can be achieved via computer vision technology, allowing shoppers to buy products without cashier interaction and a long waiting que for payments. Currently, AI-powered stores, like drug, grocery, convenience stores, are providing self-checkout capability to the users. This is an attractive feature for the customers as they don't need to spend time in long waiting lines and are free from unnecessary risk of infections [1].

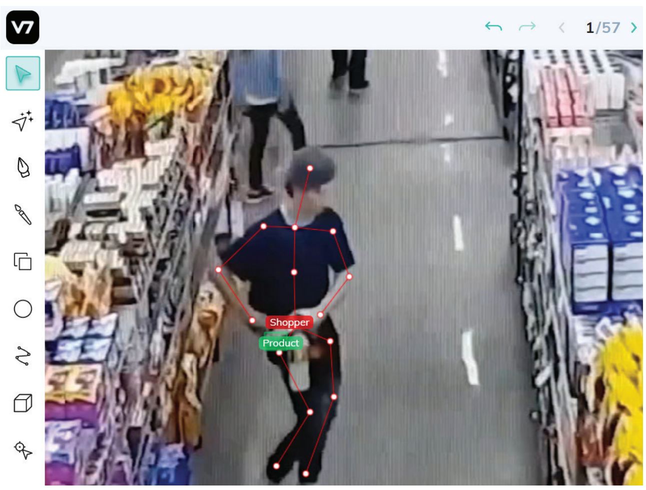
Stress-free Product Search: Computer vision solution allows the shoppers to search items via pictures instead of words [6].

Crowd Analysis: Object detection technology detects footfall data and allows business owners to analyze consumers' in-store behavior and sentiment along with customers' preferences [3].

Updated Inventory: AI helps automate the inventory requirements, lowering the cost, as well as monitor in-store pattern and cashier errors.

Reduced Cost: AI helps retailers decrease costs related with inventory management as well as returns of products.

Reduce Theft Activities: AI-enabled cameras detect potentially suspicious activity and notify to the store employees in real-time. These cameras also help identify physical assault and provide shoppers safety [3].



A FEW RETAILERS WHICH ARE USING AI:

Carrefour, a France-based retail company, introduced an AI-enabled store in Paris in Nov 2021, naming Flash 10/10, "10 seconds to shop and 10 seconds to pay", which allows shoppers to have access to 900 items in a flash [7].

Neiman Marcus, a luxury department store, is utilizing AI driven technologies to help buyers find items easily in the store via pictures of the products [8].

Taco Bell is helping eaters to place order Tacos directly through AI [8].

Walmart, a retail stores operator, is planning to deploy shelf-scanning robots, which can scan shelves and add missing products and price tags [8].

KEY MARKET PLAYERS OF AI TECHNOLOGY PROVIDERS:

Clarifai provides AI-enabled image and video recognition products, which classify images and separate out unrequired visual data/content [5].

IBM's Watson utilizes AI to generate personalized buying experiences using real-time data. Many companies are using this technology such as Frito-Lay, Home Depot to simplify supply chain operations and improving consumers' shopping experience [5].

CONCLUSION

The retail companies are utilizing AI technology for researching products, pricing and managing inventory. Companies are providing a better customer experience via adopting AI technology. Brick-mortar stores are using computer vision powered cameras to spot thieves, managing products on shelves. AI technology is an efficient tool that helps retailers providing smart shelf sensor systems, cashier less checkouts to improve the retail experience for the shoppers [3]. As AI continues to evolve, it is likely that even more transformative changes will come to the retail sector. It is difficult to predict exactly how AI will change the retail sector in the future. However, it is clear that AI will have a major impact on the way that retailers operate. Additionally, AI will continue to help retailers better understand their customers and offer more personalized shopping experiences. As AI technology advances, it is likely that even more transformative changes will come to the retail sector.

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Analysis of Mission Statements for Policy Making Across Three Indian Industries

Dr. Sarita Rana[1]

ABSTRACT

The mission statement of both the corporate houses clearly and specifically lays the emphasis on ownership. Thus, both the mission statement statements start with the word "Our" thereby being specific at the outset and that this statement is conveying the participative ownership of each and every employee of the corporate house for owning this mission and ensuring that this it is clearly understood, followed and implemented in earnest.

Keywords: Mission, vision, strategy

INTRODUCTION

The mission statement of both the corporate houses is clear and specific on the direction of the company. In other words, the sense of direction is displayed. For example in the case of Microsoft, the words *empower every person and every organization on the planet"* clearly state the direction where the company wants to go.

LITERATURE REVIEW

Klemm et al., 1991 suggested that companies generate a mission statement of both the corporate is specific in terms of the end result that they want to achieve, to bring together human asset and teams to attain the company goal, (Bart 1998; Ireland and Hilt. 1992.

Verma (2009) concluded that mission statement of both the corporate houses are oriented externally that is they are targeted towards the customers.

This research took a realistic come up to to identifying mission statement content that reflects stakeholders' aspirations, corporate goals, and other issues that help the organization Achieving goals is clearly reflected of business. Mission statements engage in recreation a great position in forming the base for creating and managerial ambiance and culture where deviation are repeatedly documented and corrected all the way through tracking and evaluation.

King (2001) (King, Case & Premo, 2010) conducted a proportional examination of mission statements for the Fortune 100 companies in the United States. Over the course of 10 years, due to the changing business environment, the survey was introduced. They compared data of mission statement from the following 3 sectors in manufacturing, services and trade of the Indian economy. The following table is the result of the department's mission statement for the current year, a collection of opinion results

Table 1 : Manufacturing Company - Analysis

Total "Stakeholders"	Company "Objectives"
Clients -55 Stockholders- 6	Value- 45 Core Values -25
Workforce- 21	Control -17
Other players-12	Worldwide - 15

From the Table I above is stated that clients were major proportion and values affected more mission objectives. The main criteria became quality of product and maintaining value standards to enhance and control competitors in the market.

Table 2 below presents the same analysis for the service industry.

Table 2 : Mission statement analysis – Percentage (service industry)

Total "Stakeholders"	Company "Objectives"
Other Players -21 Customers- 53	Well timed- 26 Value - 15
Employees -27 Communities -15	Leadership -17 Core Values - 25
Profit -18	Global- 15

From the Table 2, it is obvious that clients and human resources most regularly focused stakeholders , while technology and core standards were the most built-in goal or purpose.

Table 3 : Analysis Trading companies percentage

Total Stakeholders	Goals/ Objectives
Communities 13 Customers 43	Core Values 25 Quality 9
Stockholders 36 Employees 22	Global 13 Leadership 11

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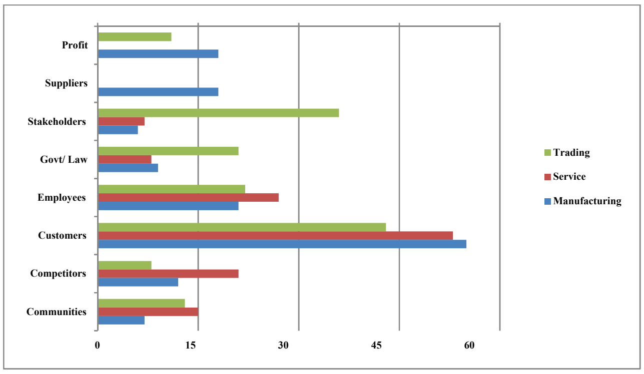
From Table 3 it is concluded that client and stockholders were on agreed side and others score was on higher side.

RESULTS

Additionally the variable of Normative Commitment Scale dealing with communities and stakeholders is studied with respect to work experience of people. People with least experience have shown higher agreement on almost all statements measuring loyalty while they show lowest agreement on statement in research. Further the statements are statistically significant with respect to work experience and it can be concluded that there is a statistically significant impact of work experience on loyalty and ethical issues.



Suppliers were only mentioned as stakeholders in the manufacturing sector, in the other two sectors they were completely absent, the shareholders in the service and manufacturing sectors being included in fewer mission statements at 6% and 7% respectively.

The concept that should be discussed, accepted and used by everyone is the credibility factor of individual score. Stakeholders, including employees, customers and members were also included. Therefore, it is seen that the importance of morality and the protection of morality increases. This is an important addition to the evangelistic message, the term is less used here in India as only 15% of companies use this tenure. This showcase that most Indian companies still capture their attention to the local market because their business is still in its infancy.

LIMITATIONS AND FUTURE RESEARCH

You can get a large sample of companies or compare companies that are doing well financially with companies that are not doing well financially to see if there are differences in terms of goals at each side.

The studies show a link between positive leadership and better performance, it would be difficult to assume any harm without more research. . We hope that it will lead to sufficient equality and vice versa. A job report is a business document that will be available in the future.

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Mental Hygiene and Health

Dr Vanita Anand[1], Dr Promila Dabas[2], Dr Vipasha Rana[3]

ABSTRACT

The World Health Organization defines Health as an all round well being of an individual in terms of physical, social and mental aspects and not just the absence of illness or disease.

Mental Health includes rehabilitating mentally sick, preventing all forms of mental disorders, reducing stress in day to day life and attaining a state of attainment of well being that helps the individual work optimally as per his/her mental potential.

In the recent years, a lot of importance and stress is laid upon the importance of mental health in facilitating attainment of global development goals, as it has been included in the Sustainable Development Goals.

In simple words, mental hygiene is a set of healthy habits that aim to keep us mentally healthy.

First of all, one needs to differentiate mental hygiene and mental health. Mental hygiene is a means to attain mental health. Mental Hygiene is "means" and Mental health is "end".

American Psychiatric Association (APA) defines mental hygiene as scientific approach that helps prevent mental illness and restore mental health by curing mental illness

The key here is prevention and preservation. Mental hygiene mainly concerns itself with positive activities and programmes that help preserve mental health and prevent metal illness.

MENTAL HYGIENE AIMS TO:

Realisation of potentialities: Providing opportunities where one's inherent potential is realised to ensure prevention of frustration.

Positive attitude: Mental hygiene promotes positive attitude towards life and work and encourages a person to utilise their potential and solve the problems of life with an attitude of hope.

Harmonious development: It is not just emotional health but the all round development of all aspects of one's personality such as physical well being, emotional maturity, social adjustment etc

Effective Adjustment: Mental hygiene helps one to adjust well in all areas of life be it home, school, work, society, relationships etc. It focuses on effective conflict management and problem solving approach.

STRATEGIES TO PRACTICE MENTAL HYGIENE

Realistic Approach: A realistic approach towards one's strengths and weaknesses can help one avoid many disappointments and frustrations in life. A knowledge of our abilities, aptitudes help us keep realistic in our expectations from ourselves resulting in right decisions and consequently minimising failures.

Emotional Maturity and control: Emotional maturity and a control over one's behaviour and impulses is essential for a healthy adjustment. This helps keeping calm and composed while responding to tough situations.

Self esteem: Awareness of self, knowing one's values, beliefs and feelings, and having positive self esteem are essential contributors to mental health.

Positive Thoughts: The quality of thoughts determine one's mental health as negative thoughts such as hatred, fear, jealousy, anger etc evokes negative emotions and consequent behaviour and reactions. However, positive thoughts such as joy, hope, compassion, love etc evoke optimism and empathy. Such emotions add positive energy in one's behaviour to cope with daily life problems and challenges.

LIFESTYLE FOR GOOD HEALTH INCLUDING MENTAL HEALTH ACCORDING TO AYURVEDA:

Ayurveda, the science of Indian medicine, talks about importance of four major areas that contribute to good health.deals with four aspects of lifestyle which can ensure good health in us.

Ahara

Achara

Vihara

Vichara

Ahara (Food): A person is what they eat. Our overall health, mental as well as physical, is majorly impacted by what we eat. Eating food that is good for mood, is rich in vitamins and minerals, including whole foods in diet, staying hydrated,

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skipping sugars, not skipping meals and mindful eating go a long way in maintaining health, checking mood fluctuations, improved focus and overall happy outlook.

Achara (Routine): Acharya means setting a proper time for daily activities that is in sync with the seasons (Ritucharya), day (Dincharya) and night (Ratricharya). The activities include food intake, daily rituals clothing etc.

Vihara (Recreation): Vihara includes activities that help one keep healthy, boosts immunity, makes body strong and increases appetite. Recreation activities like games, music, gardening help furthering good health.

Vichara (Thinking): Right thinking is a means to right conduct. A person having healthy thinking, ability to take criticism, accommodative thinking and control over their thoughts, enjoys healthy relationships would be able to maintain sound mental health.

Thus, mental hygiene is basically following right Ahara, right achara, right vihara and right vichara. In the absence of any of these, mental health issues are inevitable.

According to WHO, one of the leading causes of disability is depression followed by suicide in the age range of 15-29-year-olds. People who suffer from severe mental health conditions tend to die prematurely, sometimes as early as two decades as they suffer from physical ailments that are preventable.

The World Health Organisation started a Special initiative for Mental Health (2019-23) that aimed at helping all the people to attain highest level of mental well being.

To implement this, 12countries were prioritised where interventions and mental health services were to be scaled up to prevent neurological disorders and substance dependence, introduce sound mental health policies, and advance overall mental health initiatives. The vision of the initiative being to provide quality mental health care to 100M more people by 2023. Some of those countries are Zimbabwe, Paraguay, Jordan, Nepal, Bangladesh etc.

This **WHO's Special Initiative for Mental Health** shows the pathway for the attainment of objectives **the 13th General Programme of Work (GPW13)** and the Sustainable Development Goals (SDGs). It was recognised that without mental health, sustainable development would be ineffective. Mental health issues are the common in people suffering from HIV, TB, Cancer, Cardiovascular disease i.e., communicable and non-communicable diseases both. Stigma, discrimination and human rights violations are very commonly faced by people having mental health conditions.

The strategist action planned includes:

1: Advancing human rights, and mental health policy.

2: Upscaling services and interventions that are community-based.

The goal of **universal health coverage (UHC)** is to ensure access to cost effective, reachable and quality mental health care in the priority countries by 2023.

OBJECTIVES:

- Helping all people achieve highest levels of mental well being
- Provide access to quality yet affordable metal health care services.

Implementation: In the 12 priority countries, WHO will support to assess needs of mental health care in the current situation. It would then help these countries design and implement context specific approaches based on its strengths and needs. Each country would need to establish a specific monitoring and evaluation framework to keep the initiative on track .

SCENARIO IN INDIA

There are some studies that show mental health literacy in the context of India. According to one study, adolescents are very low on awareness and literacy about mental health where only 29.04% are aware of signs and symptoms of depression and only 1.31% were aware of psychosis. Further, stigma was a major inhibition in help-seeking.

The suicide rate in India was reported to be 15.7/100,000 in 2015 which is more than the global average (10.6) and the average for the region (12.9). Among 15–29 year olds, the leading cause of death in India is suicide. This still remains unaddressed. These figures saw major jump in Covid-19 pandemic and according to NCRB (National Crime Records Bureau) data, India lost more people to suicides than Coronavirus in 2020. Amongst the 1.53 lakh suicides in 2020, at least 12,526 students committed suicide constituting over 8 per cent of total deaths.

MENTAL HEALTH AWARENESS: ROADMAP

1. MEDIA:

The influence of mass media is all pervasive and deeply influences our perception and attitude of mental health. The media has contributed to stigmatising mental illness through its inaccurate, exaggerated and comical portrayal. Here, Social Learning Theory- on the portrayal of the treatment meted to mentally ill and Cultivation Theory -people who watch most of the time in watching mental illness through virtual world form the similar opinion and perceptions about them. Unfortunately, media portrays them as dangerous, unpredictable and violent. Thus, they are feared and avoided. The media coverage of prominent suicide cases intends to sensationalise rather than objective reporting that increases the vulnerability and actual attempted and committed suicide cases. This is termed as *Werther Effect* i.e., mimicry of suicide after a highly publicised suicide coverage by media.

The media needs to be responsible, balanced, objective and accurate while dealing with reports of portrayal of mental Health. Mental illness must be humanised by approaching it as common, treatable and real. Celebrity endorsements, sharing stories of recovered people and treatment options available has been the mainstay of media drives. Mental Health professionals have now started partnering with media.

2. GOVERNMENT PROGRAMS AND POLICIES

Government initiatives and policies are formed as an attempt to integrate mental health with general health and to reduce the treatment gap and extent of disability due to mental illness. National Mental Health Policy of India, 2014 sought to create new pathways and hope for better mental health, prevention of stigmatisation of mental illness and provide quality mental health care services. The policy takes a holistic view of mental health by recognising relationship between body, mind and soul.

The Mental Healthcare Act of 2017 provides for providing mental health care to mentally ill and promotion, protection, and fulfilment of rights of such persons during treatment . The act gives every citizen the access to qyality, government run and funded mental health services, and the right to live their life with dignity.

In year 2020, the Ministry of Social Justice and Empowerment launced, Kiran, a toll free helpline aimed to support people having mental health issues such as anxiety, stress, depression, suicidal thoughts and any other mental health concern.

Apart from a number of Mental Health Programs at District and National level, the National Rural Health Mission is providing mental health care as a part of its integrated primary care services. A dedicated approach, sound policy interventions and allocation of funds by government would further strengthen mental health situation in India.

3. EDUCATIONAL SYSTEM

As a majority of chronic mental illnesses see onset before adulthood, it is imperative to provide an early mental health education, counselling services etc in schools. Raising awareness of mental health, providing tools and strategies to deal with stress and related issues, early interventions, de-stigmatization, removing discrimination are some of the ways all educational institutes need to make available. Furthermore, encouraging help seeking, promoting self-esteem and self-confidence, fostering resilience can significantly improve students' mental health in future.

4. INDUSTRY

There is a direct link between mental wellbeing and productivity. A significant 60-65% of insurance claims related to disability in Canada are constituted of Mental Health Disability. (Stewart, W., Matousek, D., and Verdon, C. (2003). However, this disability is not addressed by insurance sector in India.

The Centre for Mental Health Research at the Australian National University developed 'Mental Health First Aid' strategies to deal with workplace stress. Countries like Australia and England have already implemented this. It refers to preserving life where a mentally ill person might pose danger to themselves or to others and providing immediate help to stop any mental illness becoming more serious.

Recently, the industry has woken to its corporate social responsibility to engage with mental health awareness campaigns and activities.

5. SOCIAL MEDIA

Mobile phones and social media can prove be potent tools for creating awareness of mental health issues, remedies and helplines. Due to access to internet by all, all can avail necessary information and guidance about prevention, remedies and who to reach in the time of crisis. Governmental policies may be advertised regularly on websites and social media. Internet can help take online surveys, questionnaires, inventories etc and provide online services such as counselling, psychiatric consultations, online support groups etc.

MENTAL HEALTH: WHAT DOES THE FUTURE LOOK LIKE

The Covid-19 pandemic exposed our vulnerability for mental health. It has made the world sit up and notice beyond just physical health. Today, it is much less of stigma, more of understanding and fewer inhibitions to seek help. Governments are prioritising access to mental health care. Mental health apps have become convenient, free or low cost, readily available 24 hours a day and provide anonymity to the user. With the option of online consultation, care and treatment, the future of mental health has become brighter than ever. Psychological skills, good eating and exercising and overall mental hygiene is helping people improve their mental well-being. The shift to mental health becoming a conscious priority like physical health, thus becoming an equally important part of overall health has opened avenues for personalised professional services tailored to the specific needs of the patient. It can be safely concluded that the much needed change is already here. It is hoped that the visibility that mental health has secured due to pandemic is here to stay and it helps create better mental health care available and accessible to all.

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Adolescence a State of Becoming and Not Being

Dr. (Mrs.)Rajesh Gill[1]

ABSTRACT

Teenage years are the time of the stage where infancy and adulthood meet and it is relatively a new concept which is based on many factors such as the demand of educated professionals in jobs, the necessity of education, the prohibition of child labour and many more. But adolescence is increasingly becoming more distinct and prolonged. In many nations, puberty is beginning sooner due to a variety of variables, including physical, social, economic, and technical ones. Due to this parents and the society as well tend to expect more mature behaviour from a young teenager. They learn to manage many different chores all at the same time. Key social changes to adulthood are also delayed until far later than biological maturity. Young people now spend longer in school and training, and they have different expectations. As a result, young people take on adult roles and responsibilities later, such as family formation and employment and depend on their parents for different aspects for a longer time resulting in feeling of insecurity and failure, affecting their mental health.

INTRODUCTION

Rituals of passage, or initiation ceremonies, were prevalent in the traditional cultures of the past were used to direct the individual through the essential change from one stage of life or social status to another. Funerals and weddings are two typical instances of this. To usher the young people into adulthood, a particular puberty ceremony was held around the time of ladies' menarche and boys' puberty. The youth would return as a new person, an adult with a new status and new duties, after completing this dramatic and frequently perilous ordeal that involved tests of bravery and endurance as well as separation from one's family and community. Adolescence typically did not exist in this cultural setting, and if it did, it was definitely a liminal, or limbo, stage that lasted anywhere from a few days to a few months .

Adolescence is used to describe the experience of transitioning through a stage between childhood and maturity. But is this period well defined ? Are both the upper as well as lower limits of this stage clearly demarcated ? Adolescence , as a stage , has undergone many changes . We need to view adolescence in relation to various contextual elements . The ideas , aspirations , career preferences and expectations of young people have changed drastically over a period of time . A lot of young people now think that they will have their career first and then later on may be in their thirties , they'll look at having kid because options are available now. They are gradually opening up. s . Even the use of information and communication technology has redefined interpersonal relationships . For parents also looking after the kids is not a fulltime job as it was earlier . Joint families are replaced by nuclear families . There is a shift in the role of schools and teachers in such scenario .

HISTORY OF ADOLESCENCE & SOCIETY

The word adolescence is a translation of the Latin term adolescence, which means "to mature.". Since reference to growth is nonspecific , it could apply to physiological , psychological , or social growth . It is therefore necessary to agree on a more specific meaning . The Random House Dictionary defines adolescence as " the process or condition of growing up , the growing age of human beings ; the period which extends from childhood to manhood or womanhood ; Ordinarily considered as extending from fourteen to twenty - five in males , and from twelve to twenty - one in females . Adolescence, according to the World Health Organization (WHO), is defined as the time between the onset of puberty and the age of majority, or between 10 and 19 years of age. However , in general terms , it is considered a period of transition from youth to adulthood, when teenagers go through changes after puberty but do not immediately take on the responsibilities and advantages of adulthood. The characteristics of adolescence differ greatly depending on one's age, sex, marital status, class, area, and cultural background. However, as a group, adolescents have sexual and reproductive health needs that are distinct from those of adults in significant ways and that are still underappreciated or unmet in the majority of the world. The idea of a protracted teenage development stage is somewhat new. Adolescence in English has only been a term since the fifteenth century (Kaplan 1984, 44). Puberty's extended duration is a social fabrication rather than a physiological one. Adolescence is a modern construct that did not exist in traditional societies. In the west, adolescent experiences underwent significant shift in the latter half of the 19th and early 20th century. The events listed below occurred in western society and contributed to this change:

- More jobs now require education beyond a primary level;

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- Many parents had the financial means to keep their kids in school so they could focus on their education;
- Child labour regulations limited children's employment prospects;
- Laws requiring compulsory schooling were passed;
- For minors, a distinct justice system was created.

A six-year period, from ages 13 to 18, was once thought of as adolescence. Today, this time frame has quadrupled to twelve years, including children from the age of 11 through extended adolescence to the age of 23. Finding your identity during this period of life might be challenging. Adolescence now typically starts at the age of twelve due to a number of physical, social, and technological developments. Due to better nutrition and fewer diseases than in the previous century, children now physically exhibit the indications of puberty earlier. The emergence of puberty in the average teen arrived approximately 19 months earlier in 1966 than it did in 1947. This means that the average youth of today is entering puberty almost two years prior to those of Second World War vintage (Muuss , 1962 , p 6) . Girls often mature before boys, and for some girls, the start of puberty can be seen as early as age 10. The age at which we consider a child to be an adolescent is likewise falling due to cultural, parental, and societal expectations. There are "working parents with no at-home parent" in an increasing number of homes. Therefore, early adolescents are frequently expected to have higher maturity; for instance, they are expected to care for or watch over younger siblings. Additionally, school districts have created distinct middle or secondary schools for kids between the ages of 11 and 14. Compared to primary schools, these institutions have higher expectations for students' conduct and academic performance. The age at which we define an individual as an adult is rising on the other end of the adolescent range. The length of time required to complete formal schooling is extending into young people's early 20s due to our more complicated culture. Many people in their late teens and early twenties are unable to move out on their own and establish financially independent lives because of the price and obligations of school.

Human biological and social clocks were once set at the same time, back when adolescence lasted a shorter duration. Teenagers were expected to become parents when they were physically prepared to do so by society. The ability of an individual to reproduce and the wisdom of the prevailing society over when to get married and start a family currently differ by around 10 years. The time between puberty and becoming an adult is growing longer. A teenager experiences sexual unemployment over this extended gap between childhood and adulthood. In actuality, social and economic variables frequently affect the stage of life at which a woman gives birth to her first child. While women pursuing professional professions are progressively deferring child bearing until their 30s to early 40s, women from lower socioeconomic homes tend to have their first kid in their early teens. Our society's rites of passage from adolescent to adulthood are murky and contradictory. There were brief formal rites of passage in traditional civilizations, which were preceded by training that lasted from a few weeks to months. Visible signs of new status included adult clothing, tattoos, scarring, and body piercing. When a young person was getting ready for maturity, their family was frequently put on hold while adult mentors taught them the skills they would need as adults.

LENGTHENING OF ADOLESCENT YEARS

Traditional definitions of adolescence include the time between the beginning of puberty and reaching maturity, which is generally accompanied by marriage. At the outset of the 20th century, adolescence was thought to last from the mid-teens to the early 20s. (G. S. Hall indicated in Hall 1904, Vol. 1, xix, that the age range should be between 14 and 24) By the 20th century, however, the boundaries of adolescence had grown in both directions. During the 20th century, puberty advanced gradually in the majority of Western countries before levelling off in more recent decades. The majority of girls in the West experience menarche before the age of 13, which is relatively late in the development of pubertal processes. Most Western boys and girls start going through puberty between the ages of 10 and 12, which is at least 2 years earlier than it was a century ago. Since the middle of the 20th century, the median age of marriage has risen significantly and steadily, and it is presently in the late 20s for both sexes in all Western countries. Similar changes have taken place with regard to the other demographic transitions that are usually used to trace the transition to adulthood. The median age at first birth increased through the second half of the 20th century in a trend that was almost identical to that of marriage (Arnett 2000a). The typical age at which people complete high school has been rising during the 20th century, which means that more and more young people in the West are continuing their education into their 20s. Since conventional adult transitions, such as getting married and graduating school, have gotten later and later in recent decades, today's youth experience a prolonged period in which they feel mostly adult but not totally. .

The following are at the top of the scale:

- More youth enrolled in programmes for education and training;
- Higher probability of Unemployment and low-paying, temporary jobs;
- Delaying marriage till one's late 20s (leading to an increase in cohabitation)
- Rise in average age of having first child ;
- reduction in welfare benefits for youth.

Jobs, housing, and partnerships are no longer as taken for granted or secure as they once may have been which in turn contributes to higher insecurity and risk for young people. Independence obviously refers to more than just financial security. The growth of higher education has caused movements in other directions, such as the earlier age at which many young people leave home and establish "intermediary houses" with friends. However, roughly one-third of them will return home once they can afford to do so.

Adulthood has likewise spread downhill at the other end of the range. Young people go through puberty and are more sexually active when they are younger. In terms of consumerism and lifestyle, childhood and adulthood are more similar. TV firms, who once had a clear division between adult and children's programmes, now sell to diverse age and lifestyle groups. Record labels identify a consumer niche among "tweenies," or 8–11 year old girls. Youth TV targets 16 to 24 year olds in a level that was unimaginable twenty years ago. Similar to this, marketing professionals discuss the issue of "kidultism," where toys, movies, and novels like Harry Potter, Lord of the Rings, Toy Story, etc. are popular among children.

In India , the contrasts are so vivid that any attempt to generalize , needs to be tempered with a caveat . There are marked variations in the situation of adolescents , qualified by gender and setting . According to the National Family Health Survey 3 (2005-2006) , 44.5 % of females aged 20 to 24 were by age 18 is married . For both men and women, the average age of marriage is 2.12 years lower in rural areas than in metropolitan areas. Women between the ages of 15 and 19 are responsible for about 19 percent of India's overall fertility. Growing up as a female child carries with it the notion of inferior status and lesser privileges as compared to the male child in the patriarchal setting of the Indian home. (Dube 1988 ; Kakar 1979) .

But it is not fair to paint a picture of pathos for Indian adolescents because some of them are dropping out of school and entering the labour market before time , and are physically stunted and tempted by drugs , violence and crime , then the other side of the canvas portrays a picture of happiness . Many of them are physically fit , educationally successful , and professionally sought after by multinational companies for their training , expertise and productivity .

There is a new breed of super cool rock stars or celebrity stars from glamour world that are redefining adulthood and looking fabulous at 40. This phenomenon looks like it's here to stay , as 40 year olds look , talk , act and dress like 20 year - olds , heralding the arrival of a generation that never wants to grow up . This also hints at the end of the generation gap . Is it popular culture that's pushing the 40 somethings to get a younger makeover ? Subconsciously influenced by the blitz of young and good - looking faces and bods from the media , many of today's over 40s are tapping the fountain of youth . Many are even adopting a lifestyle they never enjoyed when they were 20. The exposure , the expectations and the sheer exuberance that living such a lifestyle affords , keep them youthful . Sociologically " The 40 going - on 20 is like a status symbol " . We are witnessing a change in generational beliefs and culture . The mantra is ' shape up or ship out '.Popular culture pays a lot of attention to attractiveness , youth and sexual - experimentation . That's because they want to feel attractive even after they've children . There's a new dynamic , which is defying the hand - me - down model of adulthood .

INFORMATION TECHNOLOGY AGE

social and global changes have influenced the lives of adolescents and these changes are likely to have an impact on them going forward . The tools that allow modern youth to communicate with their friends and family are the most direct effects of the expanding information infrastructure. More and various types of interpersonal contact are now possible thanks to personal computers and mobile devices. Additionally, new opportunities for leisure, commerce, and employment have emerged. The ease with which fresh knowledge can be accessed is perhaps the most notable. Young users of this technology are being forced to deal with new ethical and legal dilemmas as a result of all these new opportunities provided by information technology that is fast developing. Children are drawn to new opportunities for cheating, plagiarism, and access to private, personal information. and unless new educational strategies and materials emerge , the life styles of the younger generations may subvert the ethics and values of past generations . Teenagers are unavoidably drawn to adult entertainment, and the Internet makes it much easier for them to participate in activities like gambling and sex. Violent material frequently predominates in the category of computer and Internet games. Neither family nor educational institutions are prepared to adequately restrict access of youth to such adult oriented materials that many find objectionable , particularly without adult supervision . For these reasons , socializing children in responsible use of technology is an important challenge for social policy . Socializing youth in responsible behavior with technology is critical to society from the standpoint of reducing the potential damage that they can create by releasing computer viruses or by disrupting information systems in other ways . While there have been few young people who commit computer crime , in some cases the damage has been very costly and painful . In the future , as computer networking becomes dramatically more powerful and people more dependent on it , the risks will be far greater and the damages more devastating for social institutions . The biological , cell - based computing devices of the more distance future will magnify such potential destruction many fold . New forms of both technical and social control for criminal deterrence will be needed to curtail devastating consequences of irresponsible behavior with technology .

Technology has also made adolescents more economically more reliant on the parents than during the agrarian era. modern youth is exposed to more access to knowledge and cultural options than in the past periods . This provides them with culturally diverse choices , which cannot be easily exercised due to economic dependence. The extended family system, the smaller, more intimate community, whether it be a village or a religious community, the uniform culture in the small circle of living, conventional ways of thinking, and behaviour with little need to exercise personal choice are just a few examples of built-in social buffers that are no longer available to today's adolescents. Teenagers in this scenario are under a great deal of stress. Since the "person" rather than the "system" is acknowledged as the fundamental building block of society, it is crucial to support young people in developing innate abilities to manage a range of choices, transitions, and pressures. The talents of the individual, which would enable him or her to be stable amidst rapid transition, must be enhanced in order to support the values of a stable community and the family.

CONCLUSION

It is very clear that the conventional bridges into adulthood have moved . Where once the probability of having a stable, independent income, moving away from house to get married and being a parent made the adjustment easier, for many , today a combination of factors, for many mean that both the upward extension of the "youth period" between childhood and adulthood and the downward extension into childhood. The shifts toward a more flexible labour market have also had an impact on this extension.

Many factors combined to lengthen the period of time called adolescence in resulting in the formation of a pre-adult class (Cobb 1998 , 26 ; Bakan 71) . These factors are (i) Puberty has been occurring earlier ; ii) Marriage is coming later ; (iii) Child labor laws were enacted . (iv) Compulsory Education laws were introduced ; (v) The establishment of the juvenile justice system was a reaction to the notion that teenagers were not aided if they were punished on the same scale as adults.This new volitional adolescence , as Youniss and Ruth point out , shifts the role of parents and others who want to assist youth to that of providing support and guidance - in helping them to marshal resources to find their way in the labyrinth . The role of parents for the new adolescence is that of managers , who find information , make contacts and help in structuring choices , and provide guidance that helps youth avoid pitfalls and work their way through the myriad of choices (Furstenberg et al . , 1999) . The development of society and the individual should be in synchrony , otherwise , it will produce frustration for both the individual & society . In effect transitions experienced during adolescence will be more difficult .

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Rising NPAS in India: Case Study on ABG Shipyard

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ABSTRACT:

By evaluating the existence of terrible loans, such as if an asset is unable to generate returns for a specific period of time, it is possible to quickly analyse the banking vertical (NPA). The majority of banks nowadays are dealing with problems like terrible loans and escalating, widespread frauds, which seriously humiliate public sector banks. Following the second Covid-19 wave across all sectors, the pandemic had an impact on borrowers' ability to repay loans. The purpose of this study is to identify the causes of non-performing assets in Indian public sector banks, as well as the monitoring procedures and credit evaluations in place to prevent their development. It also looks at the extent to which Covid-19 has an impact on NPA.

Keywords: Banking, Public Sector Banks, Non-Performing Asset

1. INTRODUCTION:

The banking industry is regarded as a notable pillar in the financial system, and its robust state will boost the economy of the country (Varuna & Nidhi 2019). By placing a high premium on routine monitoring and analysing bank performance because this might affect their effectiveness and revenue, the frequency of financial crises in the banking sector can be reduced to a certain degree (Hafsal et al. 2020). Since all financial institutions heavily rely on interest payments for income and financial instability in the nation can cause a sharp increase in non-performing loans and ultimately result in significant write-downs, an increase in NPAs will have a negative impact on bank profits and force drastic changes in monetary policy (Preeti & Bansal 2019).

A non-performing asset (NPA) refers to a classification for loans or advances that are in default. A loan is in arrears when principal or interest payments are late or missed. A loan is in default when the lender considers the loan agreement to be broken and the debtor is unable to meet his obligations.

Some key takeaways of NPAs in general:

- Assets become Non-performing assets (NPAs) and are recorded on a banks balance sheet only after a prolonged period of non-payment by the borrowers
- A significant number of NPA's over a period of time points to the poor financial fitness of a bank; hence placing a financial burden on the lenders.
- Depending upon the time overdue and the probability of repayment NPA's can be classified as substandard assets, doubtful debt or loss assets.
- Lenders can take possession of any collateral or sell off the loan at a significant discount to a collection agency in order to recover their losses from NPA's

2. OBJECTIVES OF THE STUDY :

- To identify the causes of NPAs in public sector banks.
- To analyse the fundamental analysis of ABG Shipyard
- To analyse the financial analysis of ABG Shipyard

3. RESEARCH METHODOLOGY:

In order to determine financial health of banks there are some ratios are used such as Current Ratio, Acid Test Ratio, Asset to Debt Ratio. This research covers the period of 2010 to 2020 & from Jan 2022 to Feb 2022 for case study purpose by collecting data and information from various secondary sources such as journals, articles, newspapers and available index.

4. ANALYSIS OF OBJECTIVE 1:

4.1 WORKING OF NON-PERFORMING ASSETS (NPAS) AND CAUSES :

- After a prolonged period of non-payment the NPAs are listed on the balance sheet of a bank or other financial institution and the lender will force the borrower to liquidate any assets that were pledged as part of the debt agreement. The lender might write off the asset as a bad debt and then sell it at a discount to a collection agency if no assets were pledged. When loan payments have not been made for 90 days, debt is typically labelled as nonperforming. While 90 days is typical, the actual amount of time may vary depending on the terms and circumstances of each loan, either being shorter or longer. At any time before or after the loan's maturity, it may be designated as a nonperforming asset.
- For example, assume a borrower with a ₹1cr loan with interest-only payments of ₹50,000 per month. In

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case he fails to make a payment for three consecutive months, the lender may be required to categorize the loan as nonperforming to meet regulatory requirements. Alternatively, a loan can also be categorized as nonperforming if a company makes all interest payments but cannot repay the principal at maturity.

- The lender is significantly burdened by carrying non-performing assets, commonly known as nonperforming loans, on the balance sheet. The lender's cash flow is reduced when interest or principle are not paid, which can cause budgetary problems and lower revenues. Loan loss provisions restrict the capital available to make further loans to other borrowers since they are set aside to cover prospective losses. Once the real losses from failed loans have been calculated, they are deducted from profits. For regulators, having a sizable quantity of NPAs on the balance sheet over an extended period of time is a warning that the bank's financial stability is in jeopardy.
- Banks are further required to classify NPAs into Substandard, Doubtful, and Loss assets.

1. *Substandard assets:* Assets that have remained NPA for a period less than or equal to twelve months.
2. *Doubtful assets:* An asset would be classified as doubtful if it has remained in the substandard category for twelve months.
3. *Loss assets:* As per RBI, "Loss asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted, although there may be some salvage or recovery value."

4.2 RISING NPAS IN INDIA

- The economic survey noted that banks have fared the pandemic better than anticipated, with nonperforming assets (NPAs) lower than before Covid and the lockdowns that followed. However, restructured loans have increased as a result of the various concessions offered to businesses, and as a result, there may still be a lagged impact of distress on their assets as the economic impact develops.
- Since 2018–19, banks' gross NPA ratio and net NPA ratio have both decreased, with the GNPA ratio falling from 7.5% in September of last year to 6.9% in September of this year. However, throughout the same time period, the banks' restructured advances ratio rose from 0.4% to 1.5%. As a result, from 7.9% in September 2020 to 8.5% in September 2021, the overall stressed advances ratio has increased.

According to the economic survey, different COVID-19-related exemptions/moratoria granted regarding asset quality contributed to an increase in restructured assets, which led to an increase in the banking system's stressed advances ratio at the end of September 2021. Even while some delayed effects are still in the works, the banking sector overall seems to have handled the pandemic shock adequately. Public sector banks (PSBs) had the lowest GNPA ratio among banks, falling from 9.4% in September 2020 to 8.6% in September 2021, however stressed advances increased slightly from 10% to 10.1% due to an increase in restructured advances.

- Overall capital adequacy ratio for the banking sector has improved to 16.54% in September 2021 from 15.84% a year ago as banks have raised capital from the markets in the last year
- The gross non-performing asset (GNPA) ratio of scheduled commercial banks is likely to increase to 9.5 percent in September 2022 from 6.9 percent in September 2021 in a severe stress scenario.
- In accordance with the 24th edition of the RBI's Financial Stability Report (FSR). The gross non-performing asset (GNPA) ratio of SCBs may rise from 6.9 percent in September 2021 to 8.1 percent by September 2022 under the baseline scenario and to 9.5 percent under the severe stress scenario, according to implied macro stress tests for credit risk. The central bank stated in the report that even in times of hardship, the scheduled commercial banks will have enough capital, both collectively and individually. Future close monitoring of these portfolios is required due to emerging indicators of stress in micro, small, and medium-sized enterprises (MSME) as well as the microfinance sector, it was noted. In September 2021, the scheduled commercial banks' provisioning coverage ratio (PCR) was 68.1 percent and their capital to risk-weighted assets ratio (CRAR) reached a new high of 16.6 percent.
- All major categories of financial system risks - global, macroeconomic, financial market, institutional, and general - were classified as "medium" in the Reserve Bank's most current Systemic Risk Survey (SRS), but global and financial market risks were placed ahead than the others.
- The most pressing concerns were commodity prices, domestic inflation, equity price volatility, asset quality degradation, credit expansion, and cyber disruptions.
- According to the report, "the global recovery has slowed in the second half of 2021, owing to a resurgence of infections in several parts of the world, supply disruptions and bottlenecks, persistent inflationary pressures, and shifts in monetary policy stances and actions across systemic advanced economy central banks as well as some emerging market economies."
- From April to October 2021, all central government deficit metrics improved from their pre-pandemic levels. The borrowing scheme has gone smoothly without a hitch. The epidemic has given the Indian business sector strength and resilience, and significant financial metrics of listed non-financial corporate entities have strengthened.

CASE STUDY: ABG SHIPYARD

ABOUT ABG SHIPYARD

ABG Shipyard Ltd is a part of the ABG Group of companies with diversified business interests. Established in 1985, it is headquartered in Mumbai. It has shipbuilding operations in Surat and Dahej in Gujarat. Following its acquisition of Western India Shipyard Limited in October 2010, it operates a ship repair unit in Goa which is the largest ship maintenance facility in India.

ABG became one of the largest private shipbuilding companies in India with a capacity to manufacture vessels up to 20 tonnes in weight.

In January 2019, "a forensic audit by E&Y revealed that ABG had defrauded a 28-member consortium of bankers to the tune of Rs 22000 crores."

Following this in November 2019, the State bank of India petitioned CBI to conduct an investigation. CBI asked the bank to investigate at their level to check for the involvement of bank insiders which was ruled out subsequently.

Post this in September 2020 "SBI filed a fresh complaint seeking an investigation into the role of public servants and other persons in the fraud".

In February 2022, a lookout circular was issued against the ABG's former Chairman Rishi Agarwal and others in the case.

ABG Shipyard Ltd builds a range of commercial vessels. These include self-loading and self-discharging bulk carriers, container ships, floating cranes, split barges, anchor handling tugs, dynamic positioning ships, offshore supply vessels, and diving support vessels.

ABG Shipyard Ltd was granted clearance from the Government of India to build warships and various other vessels for the Indian Navy. It is said that "It was the second corporate shipyard to receive this license after

Pipavav Shipyard."

In 2004, "it was awarded a contract to build pollution-control vessels for the Indian Coast Guard".

In 2009, "the Shipyard was selected to build 11 high-speed jet-propelled interceptors for the Coast Guard."

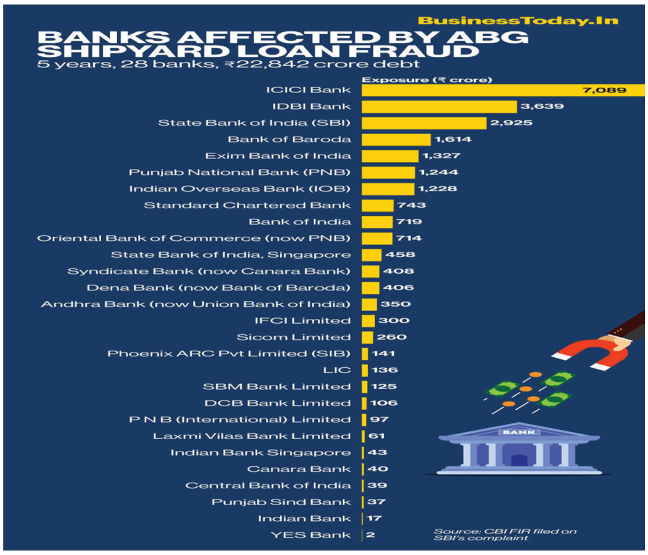
In June 2011, "ABG Shipyard Ltd was awarded a ₹9.7 billion (US$130 million) deal to build two cadet training ships for the Indian Navy".

In January 2012, "it won an order of 5 billion order from the Shipping Corporation of India taking its order book to about ₹200 billion (US$2.6 billion)". In July 2017, the company agreed to file for insolvency.

4.3 ANALYSIS OF OBJECTIVE 2:

Fundamental Analysis :

The insolvency and NPA crisis



The Central Bureau of Investigation (CBI) finally opened an investigation against ABG Shipyard and its founders for committing a Rs 22,000 crore loan scam, which set off a chain of events. Before the CBI detained the owners of ABG Shipyard, knowledge of their financial misadventures was already well known, even if not many people were aware of it. It was perhaps India's largest loan fraud case. Multiple fraudulent transactions were found and submitted to the Ahmedabad bench of the National Firm Law Tribunal by the resolution expert in charge of the CIRP of the Surat-based shipping company (NCLT).

The resolution specialist has located over six similar transactions totalling more than one billion rupees. When ordering the liquidation of ABG Shipyard in April 2019, the NCLT agreed with the resolution specialist's conclusions. However, the CBI took almost three years to formally file an FIR against the firm and its proprietors.

Resolution specialists are required by the Insolvency and Bankruptcy Code (IBC) to investigate if the promoters of a firm in insolvency proceedings have engaged in any fraudulent activities in the past. He or she must then bring the matter to the attention of the NCLT, which, if the findings are found to be valid, may order clawback or disgorgement of value lost as a result of such avoidance activities.

Despite the fact that these transactions are reported by resolution experts, they do not always result in additional investigations by government organisations such as the CBI or the SFIO. Experts believe the issue is the NCLT's incapacity to close Avoidance Transactions applications on time, providing the requisite legal sanctity to resolution professionals' judgments. According to the Insolvency and

Bankruptcy Board of India (IBBI), resolution experts have submitted 675 applications with the NCLT so far, pointing out fraudulent transactions worth Rs 2.05 lakh crore carried out by the promoters of insolvent companies. However, only a small percentage of these instances reach their logical end — more investigations and legal action against the perpetrators.

NCLT disposed of virtually none of those items or may have disposed of a few. It is impossible to say if there were Avoidance Transactions till the subject is resolved. Because the RP is neither an authority or a government investigator, the resolution professional can only present the case to the NCLT for a decision. The courts have likewise been of little assistance. In the instance of Jaypee Infratech, resolution expert Anuj Jain brought out the promoters' unlawful property purchases covering 900 acres.

Although the NCLT agreed with the resolution professional's findings, the NCLAT decided to put it on hold. However, the RP appealed to the Supreme Court, where he received a favourable ruling. The avoidance transaction was established thanks to the RP's tenacity, according to the IBBI official described above; nevertheless, he added that not all RPs may have gone to the trouble of following it up in the SC. In another case, the Delhi High Court held that if an avoidance transaction application is not resolved by the end of the insolvency proceedings, the application fails. This produced a great deal of ambiguity because the legislation states that CIRP can be disposed of even though the avoidance transaction is in progress. Furthermore, the law's primary goal is to safeguard lenders' interests by preventing preferential, undervalued, exorbitant, and fraudulent transactions. As a result, the emphasis is on recouping lost value rather than pursuing criminal charges against people involved in these transactions.

A partner at the legal firm Lakshmikumaran & Sridharan, Yogendra Aldak, asserts that Section 69 (of the IBC) holds everyone involved in a fraudulent transaction criminally accountable. Legal professionals advise calling the Serious Fraud Investigation Office (SFIO) to investigate the case if the resolution specialist discovers a sizable number of illegal transactions. The ABG Shipyard is one such case that is under investigation by the SFIO, according to IBBI authorities. According to a business affairs ministry official, the SFIO is currently investigating less than ten such situations where avoidance transactions have been recorded.

SFIO investigates significant instances totalling Rs 500 crore or more, but it has been mandated to look into matters involving lower sums in the public interest. The administration plans to change the law in the meantime to strengthen it. The statute would be amended to clarify that an avoidance transaction application is still valid after the insolvency case is concluded.

The State Bank of India (SBI) alleges in a complaint filed with the Central Bureau of Investigation (CBI) that the shipbuilding firm was responsible for a consortium of 28 banks losing Rs 22,842 crores. ABG Shipyard Limited had an order book worth Rs 16,600 crores at its peak. The Gujarat-based shipyard is being investigated for allegedly orchestrating India's largest scandal. The State Bank of India (SBI) says in a petition lodged with the Central Bureau of Investigation (CBI) that the shipbuilding firm was responsible for a consortium of 28 banks losing Rs 22,842 crores. According to the CBI's first charges, the Gujarat-based Shipyard procured loans from a number of local banks and used them to purchase assets through offshore firms. As a result, funds were dispersed to parties that were linked. After suffering a loss of Rs 199 crores in 2013, the company is accused of breaking the terms of the Corporate Debt Restructuring Agreement. (CDR). Lending institutions will reduce interest rates or prolong loan payback terms for distressed borrowers under the CDR system. The major causes of the scam, according to SBI, were theft, misappropriation, and criminal breach of trust.

Despite this, the company took steps to prevent legal issues. In 2013-2014, it went through a debt restructuring procedure. Ships and boats were cancelled, there was a shortage of bank finance, exorbitant borrowing rates, a lack of capacity utilisation at the Dahej shipyard near Surat, and the Center's shipbuilding subsidies programme ended in 2007. A display notice from the Directorate of Revenue Intelligence in Mumbai highlighted suspicions of fraud by ABG Shipyard personnel in an independent auditor's report from 2015-16, although some creditors had minimal information concerning the legal procedures taken against them. The History of ABG Shipyard The Ahmedabad Registrar of Companies registered ABG Shipyard as Magdalla Shipyard Pvt Ltd in March 1985.

In May 1995, the company was renamed ABG Shipyard Pvt Ltd, and in June 1995, it was renamed ABG Shipyard Ltd. The company sold its first ship in the 1990s, and as of 2013, it had produced more than 165 ships, with 80 percent of those being for foreign orders. In 2000, the government granted the business its first contract to build two interceptor boats for the Indian Coast Guard. ABG Shipyard was granted permission to build defence ships, including submarines, in 2011. After receiving several claims of fraud, the central investigative agency apprehended Rishi Kamlesh Agarwal, former executive director Santhanam Muthaswamy, directors Ashwini Kumar, Sushil Kumar Agarwal, and Ravi Vimal Nevatia of ABG Shipyard.

The CBI then conducted searches at 13 locations, including Surat, Bharuch, Mumbai, and Pune, which turned up proof in the form of papers. There were several inquiries once the new investigations and accusations were known, including how such a huge scam could have gone undetected for so long and why the CBI registered the FIR so late. The scam was originally identified in 2019 whilst also being subject to a forensic audit by Ernst & Young LLP between 2012 and 2017.

Out of a total debt of 22,842 crores, the firm owes 7,089 crores to ICICI, 2,925 crores to SBI, 3,639 crores to IDBI, 1,614 crores to Bank of Baroda, 1,244 crores to Punjab National Bank and Indian Overseas Bank independently, 1,317 crores to Exim Bank, and 719 crores to Bank of India, among others. Despite the fact that the business secured each of these loans between 2005 and 2010, the CBI claims that the fraud was not identified until the forensic audit. According to the SBI, the accused party stole funds between 2011 and 2017 and distributed them to affiliated parties. Types of loans provided to the business include CC (cash credit), term, letter of credit, bank guarantee, etc. The State Bank of India (SBI) originally complained to the CBI on November 8, 2019, and on March 12, 2020, the agency asked additional information, resulting in how the CBI FIR came to be. In July 2016 and 2019, respectively, the loan account was declared as a non-performing asset (NPA) and a fraud.

CBI said it used the funds it borrowed from banks to pay off debts, cover other businesses' expenses, and cover letters of credit.

Due to the decline in commodity demand, prices, and subsequent decline in cargo demand, the global crisis has had an impact on the shipping sector. According to the SBI complaint, inventory developed as a result of the cancellation of contracts for a small number of ships and vessels. Because of this, there is a lack of working capital, which has increased the operating cycle significantly and made the liquidity and financial troubles worsened.

It continued that there was no demand for commercial vessels because the industry was already experiencing a slowdown in 2015; this situation was made worse by the lack of defence orders, which made it problematic for the company to comply to its repayment timetable. According to the statement, the ICICI Bank has already reported the company to the NCLT, Ahmedabad, for the corporate insolvency resolution process.

Furthermore, such deceptions raise the issue of how significant financial crimes go unreported until it is too late to make amends. This is the most recent of the financial scandals over the previous ten years, and it might have long-term effects on the already vulnerable economy of the nation. Given that five states in the nation are gearing up for assembly elections, the timing of the scam's discovery is highly arbitrary. The corporation looks to have stolen the money, and the political parties are once more assigning blame. The ED has been investigating reports including the suspected "diversion" of bank loan funds, the establishment of shell companies to launder public monies, as well as the involvement of different company executives.

4.4 ANALYSIS OF OBJECTIVE 3:

Financial Analysis :

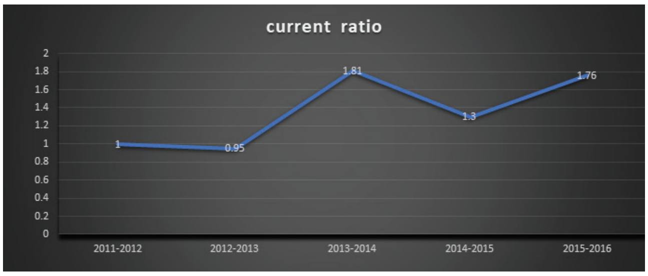
After taking a look at the balance sheet and the cash flow statements of the ABG shipyard co. ltd. We noticed a series of downfall in the various heads of the balance sheet which were better analysed by using ratios.

For doing the financial analysis certain ratios were taken into consideration which are commonly used ratios.

A) Current ratio-The current ratio is a liquidity ratio that measures whether a firm has enough resources to meet its short-term obligations. It compares a firm's current assets to its current liabilities. The ideal current ratio for manufacturing industries is 1.5-2.00. the current ratio of the company is depicted in the line chart below.

The formula for current ratio is:

Current ratio = current assets/current liabilities



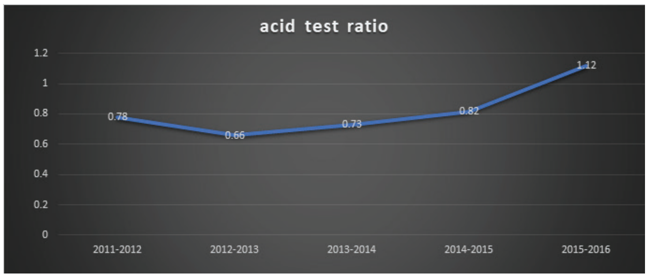
We can see that in 2011-12 the current ratio was 1.00 which is a good ratio but not complying the industrial standards, then in 2012-13 the ratio fell down to 0.95 which is not a good sign for the health of finances in the company and shows a clear sign of heavy debt. Further if we notice that the current ratio was highest in 2013-2014 at 1.81 which shows a good sign of assets which means efficient use of debt was done. Again in 2014-2015 the ratio went down 1.3, lower current ratio means less liquidity though the ratio went up in the next financial year again it was 1.76 in 2015-2016. The conclusion for the current ratio is that a fluctuating current ratio is not good for a manufacturing industry and complying with the industry standards.

B) Acid test ratio- The quick ratio, also known as the acid-test ratio, analyzes data from a company's balance sheet to evaluate if it has adequate short-term assets to pay its short-term liabilities. The acid test ratio formula is:

Acid Test= Cash + Marketable Securities + Account receivables/ current liabilities

For most industries, the acid-test ratio should exceed 1. If it's less than 1, then companies do not have enough liquid assets to pay their current liabilities and should be treated with caution.

The acid test ratio or the quick ratio of the company is depicted below in the line chart

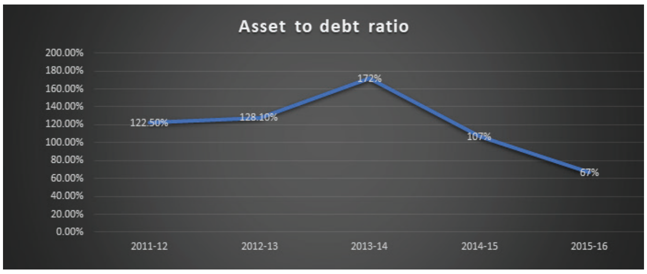


Observing the chart carefully we can see that the quick ratio is pretty satisfactory till 2014-2015 the ratios were under 1.00 which is considered healthy for manufacturing industries in 2011-2012 the ratio was 0.78. In the following year the ratio was 0.66 and in 2013-2014 it was 0.73 the healthiest ratio was in 2014-2015 that was 0.82, but right after that year the ratio increased to 1.12 which is a sign of less liquid companies higher the liquidity ratio lesser the asset coverage for short term.

C) Asset to debt ratio- Total-debt-to-total-assets is a leverage ratio that indicates how much debt a firm has overall in comparison to its assets. Analysts can compare the leverage of one firm to that of other companies in the same industry using this statistic. This data may reveal a company's level of financial sustainability. The ratio increases with the degree of leverage (DoL), which raises the risk of investment in that firm.

Debt-to-Assets Ratio = Total Debt / Total Assets

The ideal ratio for manufacturing industry is anything less than 50%. The asset to debt ratio of ABG shipyard has been depicted in the line chart given below.



The asset to debt ratio of this company is a pure disappointment, the industry standards stands at 50% whereas this company reached the zenith of 122.5% in the initial year which is taken under consideration for research. In the year 2012-2013 it went 6% high at 128.10% which clearly shows the amount of debt was humongous, in the following year of 2013-2014 the ratio represented the reality of debts taken as it went up to 172% which is a rise of 44%. The company showed a improvement of 65% and the ratio stands at 107% in the year 2014-2015 which was still not according to the standards of the industry but it can be understandable as a ship building company requires a huge amount of capital to run smoothly but taking unnecessary debts should not be the part of the plan. At the end, in the year 2015-2016 the asset to debt ratio came down to 67% which is nearing the industry standards.

5. CONCLUSION

After a series of scam that India saw in the last decade of 2010-2020, whether it is Vijay Mallya or Nirav Modi, or Rana Kapoor, they opened our eyes that how one of our most trusted financial institutions; the commercial banks, are drained due to these scams and public wealth is in wrong hands. ABG shipyard scam is nothing new but the basic case of NPA just this time the amount is ₹22,842 crores. Which is more than the contribution of Vijay Mallya and Nirav Modi collectively that was ₹9000 crores and ₹12000 crores respectively. Loopholes always exist in every management and legal system and there are always some swindlers who take advantage of that. That government should have been a little more concerned towards the banking sector and a system of proper checks and balances should have been implemented. The consortium of banks who provided these loans could have done the proper research as taking heavy loans requires a lot of documentations as well as permissions to get surpassed and forensic accounting should have been done in the past so that the amount of NPA didn't increase as it is in the status quo.

The recent update is that on 26th April, 2022, the CBI has raided over 26 premises in the search to gather financial documents and related information of the company and the former promoters for the investigation purpose and as of now the fraud/ money laundering case still stands unsolved.

LEGAL REMEDIES AVAILABLE FOR NPA

The most simple and basic way to recover the loss is to create NPA provisioning, in which the banks set aside a certain amount as per the RBI guidelines from their profits and income for the recovery of losses caused by NPAs. NPA requires handling with utmost care and caution as higher the amount of NPA will be the weaker will be the bank revenue streams. Thus, NPA acts as a dead weight on bank's balance sheet.

Beside provisioning our law and judiciary system has also provided us with legal resolution and acts which helps the banks to recover the losses and regain its goodwill and confidence amongst the depositors.

A. LOK ADALAT

One of the alternative dispute resolution procedures established by the government is the Lok Adalat. It serves as a venue for the mutual resolution of legal disputes or cases that are still pending or in the preliminary stages of litigation. The Legal Services Authorities Act, 1987 conferred legal status for Lok Adalats. The decision reached by the Lok Adalats is considered, under the aforementioned Act, to be a decree of a civil court and is conclusive, binding, and not subject to review by any court of law. Although there is no opportunity for an appeal against the Lok Adalat's decision, the parties can still start a lawsuit if they are dissatisfied with it by going to the relevant court, initiating a case, and exercising their legal right to litigation. The Lok Adalats have jurisdiction over matters and disputes with a value of less than ten lakh rupees. The individuals who make decisions in the Lok Adalats are known as Members of the Lok Adalats, and they only serve as statutory conciliators, not as judges. Therefore, they are only permitted to persuade the parties to reach an agreement for addressing the disagreement outside of court in the Lok Adalat and are not permitted to directly or indirectly pressure any party to compromise or settle any case or topic.

B. DEBT RECOVERY TRIBUNALS

The Recovery of Debts Due to Banks and Financial Institutions Act (RDDBFI Act), which was passed in 1993 in response to the sharp increase in NPAs, was designed to provide lenders and borrowers with swift relief through the filing of Original Applications (OAs) in Debt Recovery Tribunals (DRTs) and appeals in Debt Recovery Appellate Tribunals (DRATs).

The DRT also has the authority to rule on applications made by the borrower or mortgagee against secured creditors for actions conducted in accordance with the Securitization Act. As of right now, the government has established 39 single-member DRTs and 5 DRATs. The issue with the DRTs, like many other debt recovery procedures, is that they take a long time to resolve cases that are still unresolved disputes because of how lengthy the process takes.

C. SARFAESI ACT

The full form of SARFAESI Act as we know is Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002. Banks utilize this act as an effective tool for bad loans (NPA) recovery. It is possible where non-performing assets are backed by securities charged to the Bank by way of hypothecation or mortgage or assignment:

- Upon loan default banks can seize the securities (except agricultural land) without intervention of the court.
- SARFAESI is effective only for secured loans where bank can enforce the underlying security e.g. hypothecation, pledge and mortgages. In such cases, court intervention is not necessary, unless the security is invalid or fraudulent. However, if the asset in question is an unsecured asset, the bank would have to move the court to file civil case against the defaulters.

SARFAESI ACT - IMPORTANT ASPECT

1. Before the introduction of SARFESI act, banks and financial institutions had to appeal to the court for the repayment of bad loans, but after this act's implementation there is no need of mediation of court in the process.
2. Additionally, under this Act, banks and financial institutions have the power to send notices of collection to defaulting guarantors and borrowers, demanding them to pay all unpaid loans within 60 days.
3. In case the borrower and/or guarantor fails to comply with the 60 days' notice issued by the bank or financial institution in repayment of full dues, then the bank and/or financial institution can:

(a) "Take the possession or the management of secured assets of the borrower, and also can transfer the same by way of lease, assignment or sale for realizing the secured assets without the intervention of a court/DRT".

(b) "Appoint any person to manage the secured assets which have been taken over by the secured creditor (bank)".

(c) "Also instruct at any time by a notice in writing to a person"

(i) "who holds secured assets of the borrower"

(ii) "from whom any money due or becoming due to the borrower"

(iii) "to pay such money to the secured creditor (bank)".

SECURITIZATION

"Securitization is the process by which a securitization or reconstruction firm acquires a financial asset from a lender (bank or financial institution). The reconstruction or securitization firm may collect funds from competent institutional investors for the acquisition of a financial asset through the distribution of security receipts expressing an undivided interest in the financial assets or by other means".

SECURITY RECEIPTS

any receipt or any other security provided to a qualified institutional buyer by a reconstruction or securitization firm. The security receipt serves as evidence of the holder's acquisition of an undivided right, title, or interest in the financial instrument that is the subject of the securitization. The market permits the transfer of security receipts. The SARFAESI Act enables the transfer of loans with mortgage or other security interests.

ASSET RECONSTRUCTION

An asset reconstruction firm's duty is to undertake bank or financial institution liabilities or advances in order to retrieve them. In other words, asset reconstruction is the method by which any securitization company or reconstruction business acquires any interest or right of any banking or finance institution in any financial assistance for the purpose of attaining such financial assistance. When a financial asset is acquired, the securitization or reconstruction firm assumes charge of the asset, thereby replacing the lending bank or financial institution. This transaction is also known as a sale of an asset without the engagement of a bank or other financial institution. The Reserve Bank of India oversees all firms active in securitization or reconstruction. It is a securitization company registered under the Companies Act of 1956, and it must also be registered with the RBI in compliance with the SARFAESI Act.

D. INSOLVENCY AND BANKRUPTCY CODE

Both the creditors and a corporate debtor that has fallen behind on payments can start the IRP. When the IRP is started, the creditors' claim must be resolved within 180 days. During this time, the creditors will hear revival ideas and make decisions about the next steps. 75% of financial creditors must approve a resurrection plan within those 180 days. If this bare minimum is not reached, the company will automatically enter liquidation. If instructed to do so by a resolution adopted at a meeting of the committee of creditors by a vote of 75% of the voting shares, the resolution professional must submit an application to the adjudicating authority to extend the duration of the corporate insolvency resolution process past one hundred eighty days. Sections 7, 9, and 10 of the Insolvency and Bankruptcy Code were suspended by the government under an ordinance known as the Insolvency and Bankruptcy Code ordinance of 2020, which was created to protect defaulting corporations from being forced into insolvency as a result of the disruptions brought on by the coronavirus pandemic. The Insolvency and Bankruptcy Code primarily aids in dealing with debt recovery from non-performing assets (NPAs), which enables banks effectively recover their debt and be relieved of the load of the NPA, maintaining the health and preventing undue stress in banks and financial institutions.

CONCLUSION

India stands at 33 out of 137 countries in case of bad NPAs and has the second worst NPA ratio among large economies. Throughout the research we found that many public as well as private sector banks have been equally contributing in the rise of NPAs. In the last few years various scams have come up to the notice of the government and those scams have exponentially increased the amount of NPAs in our country.We thought that the past scams were the biggest but this new scam surpassed everyone's expectation and created a big headline as well as gained international attention too. It is an alarming situation for the banks, depositors as well as the government to take strict action against these scammers. Though our judicial system has protective acts against these financial frauds but we have realised that they are not as effective as they should be so here the banks play an important role and they should be more aware while lending out to the huge revenue generating companies. The government should also take some crucial steps to aid the bankers and safeguard the interest of depositors.

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