

**VIKSIT BHARAT 2047**  
**EMPOWERING INDIA**

**Dr B Nagarjuna**  
**Radha Raghuramapatruni**  
**Dr (Mrs.) V.M.Suneela Shyam**

**Archers and Elevators Publishing House**  
**Bangalore – 560090, India**

**ARCHERS & ELEVATORS PUBLISHING HOUSE**

**No. 84 AGB Lay out, 6<sup>th</sup> Cross**

**Hesaraghatta Main Road**

**Bangalore-560090 (INDIA)**

**Mob: + 91 9164362263**

**E-mail: archerselevators@gmail.com**

**Website: www.aeph.in**

**Viksit Bharat 2047 – Empowering India**

© Archers and Elevators Publishing House

**First Edition 2024**

**ISBN: 978-81-19653-65-2**

**Price: Rs.900/-**

All rights reserved. This book or parts therefore, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or an information storage and retrieved system now known or to be invented, without written permission from copyright owners.

**PRINTED IN INDIA**

A & E printers, Bangalore-90

## CONTENTS

S NO	TITLE	PAGE NO
Chapter -1	Deployment Of Bank Credit by Major Sectors: An Analysis of Non-Food Credit <b>Dr. Krishnan Kutty. V</b>	1
Chapter -2	Strategies To Achieve the Goals of Viksit Bharat 2047 <b>Dr P V Raveendra, Dr Rizwana M, Dr Vijaya Kumar G, Dr Arun Kumar Dc</b>	8
Chapter -3	Emerging Role of Social Stock Exchange In India <b>Shlok Sujit Kumar Chauhan</b>	16
Chapter -4	Visit Baath 2047-An Ai Based Composite Hybrid Teaching-Learning Approach <b>Dr. Shalini H S, Dr. P V Raveendra Dr. Y M Satish</b>	28
Chapter -5	“Prospects And Opportunities in Retail Sector” <b>Harishkumars</b>	37
Chapter -6	The Impact of Digital Platforms on The Education System <b>A. Kiran Kumar</b>	46
Chapter -7	A Study on Challenges and Opportunities of Start Ups in India <b>Varshitha R,Srilakshmi P,Dr. Suhasini R</b>	52
Chapter -8	A Study on Role of Women Entrepreneurship in India. <b>Issac Rathnakar Ns,Drishyakp</b>	61
Chapter -9	Challenges And Opportunities in Blockchain: A Review <b>Ranjitha S</b>	70
Chapter -10	Nanotechnology-A Revolution <b>Kishan. A.V, Omkar.B</b>	80
Chapter -11	An overview of Machine learning Technologies in education System <b>Jyothsna. K</b>	85
Chapter -12	Education And Skill Development in India: Initiatives & Challenges <b>Dr.J. Meenambigai, D.Lokeshwaran</b>	93



# **DEPLOYMENT OF BANK CREDIT BY MAJOR SECTORS: AN ANALYSIS OF NON-FOOD CREDIT**

**Dr. Krishnan Kutty. V**

Assistant Professor of Economics, Government College  
Kodanchery – Kozhikode – Kerala

## **Abstract**

Credit that is not related to food is divided into four main categories: personal loans, industry, services, and agriculture and related businesses. The banks' non-food credit from 2019 to 23 has a growth rate of 40.34 percent, with an average of 11285820/-crores over the course of five years. The average amount of bank credit given to agricultural, allied activities, and industry over a five-year period is 1374181 crores, whereas the combined amount for the micro, small, medium, and big industries is 3060185.2 crores. These two have respective growth rates of 55.25 percent and 19.12 percent. The average bank credit for services and related items in this industry was 29286993.4 cores, or 59.62 percent. On average, the bank permitted 3135083 crores in personal loans with growth rates of 81.53 percent to be credited towards non-food credit. The average amount of priority sector credit extended by banks to non-food credit is 4733982.6 crores, with growth rates of 61.84 percent over the previous five years.

**Keywords:** Bank Credit, Agriculture, Non- Food, Sectors

## **Introduction**

There are two types of bank credit: food credit and non-food credit. The term "food credit" refers to bank loans given to the Food Corporation of India (FCI), mostly for the purpose of purchasing grains. That represents a tiny portion of the total bank credit. Banks provide money to a variety of organisations. Loans made to the Food Corporation (FCI), for the purpose of promoting food safety, etc., are referred to as "food credit," whereas loans made for other purposes unrelated to food are called "non-food bank credit." The majority of bank credit is non-food credit, which includes personal loans as well as credit to the agriculture, industrial, and services sectors of the economy. The RBI gathers information on bank credit once a month.

The term "food credit" refers to bank loans given to the Food Corporation of India (FCI), mostly for the purpose of purchasing grains. Credit that is not related to food is divided into four main categories: personal loans, industry, services, and agriculture and related businesses. According to RBI data on Sectoral Deployment of Bank Credit, non-food bank credit growth slowed to 15.3% year over year in October 2023 from 18.3% the previous year. This was caused by a steep fall in credit to the industries and a slowdown in credit to the services and personal loans sectors. The credit for non-food items. The majority of bank credit is non-food credit, which includes personal loans as well as credit to the agriculture, industrial, and services sectors of the economy. As an illustration, consider loans for crops, fertiliser, buffalo, tractors, etc. The bank offers funding for two-wheeler loans in addition to food credit. loans for homes, cars, etc. to farmers, etc. Under agricultural loans, this form of loan—which has nothing to do with food production—is known as NON-FOOD CREDIT.

### **Objectives**

An examination of the growth drift in bank credit deployment by India's key non-food credit sectors.

### **Methodology—**

In order to achieve the goals of growth drift deployment of bank credit by the main non-food credit sectors in India, the study employed secondary data. The Reserve Bank of India, a division of the Government of India, provided the information on non-food credit such as agriculture and related industries, services, personal loans, and priority sectors. The data covered certain time periods that were relevant to the March of 2019 and 2023, respectively. In order to estimate, compare, and deploy bank credit by main non-food credit sectors in India, the average annual growth rate (AGR) was employed. The sum in rupees crores related to agriculture and related industries, services, personal loans, and priority sectors.

### **Results and Discussions**

There are four primary types of credit that are unrelated to food: personal loans, industry, services, and agriculture and associated companies.

**Table 1 Non-food Credit - Yearly**

Items	Outstanding as on last reporting Friday in March				
	March 2019	March 2020	March 2021	March 2022	March 2023
Non-food Credit	9730112	10319097	10888255	11836304	13655330

**Source: RBI – Government of India.**

Table 1 displays the banks' non-food credit from 2019 to 23. The average of the five is 11285820/-crores, with a corresponding growth rate of 40.34 percent.

**Table 2 Agriculture and Allied Activities & Industry**

	Sectors	Outstanding as on last reporting Friday in March				
		March 2019	March 2020	March 2021	March 2022	March 2023
1	Agriculture and Allied Activities	1113067	1203176	1329618	1496981	1728063
2	Industry - (Micro and Small, Medium and Large)	2837528	2946851	2934689	3201852	3380006
2.1	Micro and Small	371373.8	403051	433192.2	559698.6	633587.3
2.2	Medium	100786.2	108572.8	145208.7	239717.8	268557.4
2.3	Large	2365368	2435227	2356288	2402436	2477861

**Source: RBI – Government of India.**

Table 2 displays the amount of bank credit allocated to agricultural, related activities, and industry. Over a five-year period, the average amount for agriculture and related activities is 1374181 crores, while the combined amount for the micro, small, medium, and large industries is 3060185.2 crores. These two have growth rates of 55.25 percent and 19.12 percent, respectively.

**Table 3 Services Activities**

	Sectors	Outstanding as on last reporting Friday in March				
		March 2019	March 2020	March 2021	March 2022	March 2023
3	Services	2340659	2672047	2770713	3123984	3736064
3.1	Transport Operators	114748.8	132565.8	142993.6	167991	192059.2
3.2	Computer Software	17860.23	19691.53	19816.32	24281.36	24920.87
3.3	Tourism, Hotels and Restaurants	37036.45	53890.73	59524.79	67691.79	69330.6
3.4	Shipping	7521.32	6246.06	8065.72	8817.02	7068.24
3.5	Aviation	31388.53	23579.09	27519.25	23481.49	27639.64
3.6	Professional Services	155919.1	170203.9	108430.5	119527.8	139198.4
3.7	Trade	479994.1	557115.3	628249.3	740468.9	872334.8
3.7.1	Wholesale Trade <sup>1</sup>	229808.8	275907.5	328461.5	389774.4	443168.1
3.7.2	Retail Trade	250185.3	281207.9	299787.8	350694.5	429166.8
3.8	Commercial Real Estate	227931.5	288230.6	289474.1	297230.6	322573.3
3.9	Non-Banking Financial Companies (NBFCs) <sup>2</sup> of which,	751146.2	950900.7	948567.5	1033470	1342070
3.9.1	Housing Finance Companies (HFCs)	225504.5	249478.1	284469.3	286328.6	318729.1
3.9.2	Public Financial Institutions (PFIs)	49017.44	44410.09	82184.44	137684.2	175714.3
3.10	Other Services <sup>3</sup>	517112.2	469623.5	538071.7	641024	738868.6

**Source: RBI – Government of India.**

The services activities and associated products are displayed in Table 3, where the average bank credit to this sector was 29286993.4 cores, or 59.62 percent.



**Table 4 Personal Loans**

	Sectors	Outstanding as on last reporting Friday in March				
		March 2019	March 2020	March 2021	March 2022	March 2023
4	Personal Loans	2303144	2726864	3009013	3455556	4180838
4.1	Consumer Durables	6878.47	16091.72	17264.58	17839.79	20983.19
4.2	Housing (Including Priority Sector Housing)	1176510	1361880	1492302	1726697	1988532
4.3	Advances against Fixed Deposits (Including FCNR (B), NRNR Deposits etc.)	86692.85	78091.45	77928.42	83629.44	122115.6
4.4	Advances to Individuals against share, bonds, etc.	6455.54	6188.24	5400.4	6906.668	7633.938
4.5	Credit Card Outstanding	87685.62	119914.2	131704.3	154536.7	204708.4
4.6	Education	76375.8	77871.8	78130.84	82729.47	96853.04
4.7	Vehicle Loans	285257.8	339518.9	368412.5	402564.3	502376.9
4.8	Loans against gold jewellery	24670.77	33256.93	75048.59	74665.38	89382.15
4.9	Other Personal Loans	552616.6	694050.5	762821.1	905987.3	1148253

**Source: RBI – Government of India.**

Table 4 demonstrates that, on average, the bank permitted personal loans with growth rates of 81.53 percent to be credited to non-food credit.

**Table 5 Priority Sector (Memo)**

	Sectors	Outstanding as on last reporting Friday in March				
		March 2019	March 2020	March 2021	March 2022	March 2023
5	Priority Sector (Memo)	37,06,061	41,70,191	45,19,455	52,76,379	59,97,827
5.1	Agriculture and Allied Activities□	1112144	1183149	1339464	1517236	1746051
5.2	Micro and Small Enterprises□	1067234	1198459	1206003	1429519	1645484
5.3	Medium Enterprises□	164836.4	179173.2	258462	374377.4	423888.5
5.4	Housing	481842.9	559114.9	578081.4	617927.4	622799
5.5	Educational Loans	57976.06	61232.99	59589.45	58124.35	59512.75
5.6	Renewable Energy	1688.45	1716.95	1687.725	3844.81	4670.102
5.7	Social Infrastructure	1384.32	1629.41	2951.139	2482.774	2463.61
5.8	Export Credit	16009.9	29968.91	26684.22	29284.56	20489
5.9	Others	11745.18	19009.01	15711.12	42144.49	60835.12
5.10	Weaker Sections including net PSLC-SF/MF	791200.2	936737.8	1030821	1201437	1411633

**Source: RBI – Government of India.**

Table 5 displays the average amount of priority sector credit given by banks to non-food credit, which is 4733982.6 crores, with growth rates of 61.84 percent during the previous five years.

### **Conclusion**

Four basic categories are used to classify non-food credit: (i) agricultural and related activities; (ii) industry; (iii) services; and (iv) personal loans. Bank loans for non-food items between 2019 and 23 have an average amount of 11285820/-crores, with a growth rate of 40.34 percent per year. Bank credit to the agricultural sector and its related operations is 1374181 crores on average over a five-year period; the combined sum for the micro, small, medium, and large sectors of the industry is 3060185.2 crores. These two have growth rates of 55.25 percent and 19.12 percent, respectively.

The average bank credit to this sector was 29286993.4 cores, or 59.62 percent, for services and related things. Personal loans granted by the bank to credit to non-food credit averaged 3135083 crores, with an 81.53 percent growth rate. The priority sector credit by bank to non-food credit of this average is 4733982.6 crores, with growth rates of 61.84 percent over the last five years.

## **References**

Bernanke, B.S. (1993): "How important is the credit channel in the transmission of monetary policy? A Comment" Carnegie-Rochester Conference Series on Public Policy, 39: 47-52.

Modigliani, C., G. Ferri and A. Generale (1997): "The impact of bank-firm relations on the propagation of monetary policy squeezes: An empirical assessment for Italy" BNL Quarterly Review, No. 202, (September): 271-299. De Haan, L., K.G. Kodiak and J.E.J.de Viler (1994): "Buffer stock money and pecking order financing: Results from an interview study among Dutch firms" *Economist*, 142:287-325. Friedman, B.M. and K.N. Kuttner (1993): "Economic activity and short-term credit markets: An analysis of prices and quantities" *Brookings Papers on Economic Activity*, 2:193-283. Makinde, H.O. (2016), "Implications of Commercial Bank Loans on Economic Growth in Nigeria", *Journal of Emerging Trends in Economics and Management Sciences*, 7(3):124-136. Yakubu, Z. and Affoi, A. Y. (2014), "An Analysis of Commercial Banks' Credit on Economic Growth in Nigeria", *Current Research Journal of Economic Theory*, 6(2): 11-15.

# **STRATEGIES TO ACHIEVE THE GOALS OF VIKSIT BHARAT 2047**

**Dr P V Raveendra**

**Dr Rizwana M**

**Dr Vijaya Kumar G**

**Dr Arun Kumar DC**

- 1.** Professor, Department of Management Studies, M S Ramaiah Institute of Technology
- 2.** Associate Professor, Department of Management Studies, M S Ramaiah Institute of Technology
- 3,4** Assistant Professors, Department of Management Studies, M S Ramaiah Institute of Technology

## **Abstract:**

India is rich in population but poor in human resources. Even though there is clarity between 'population' and 'human resources', the required efforts are not being put in the right direction. The Government of India's move is a golden opportunity to make 'population' into 'human resources' particularly with respect to youth. Today, Indian youth make up the largest chunk of the Indian population. If we segregate educated and not educated, the competencies vary. Among the educated youth, there are many with degrees but without skills, and among the uneducated youth, there are many without degrees but with skills. The time has come to make the youth both educated and skilled. All efforts should be on the skilling or upskilling of the youth. The government had implemented many schemes, but the fruits of these schemes have yet to be received. In this context, this chapter focuses on identifying the various aspects of the vision of Viksit Bharat 2047 and the various challenges to it. Viksit Bharat 2047 is the vision to transform India into a developed nation by 2047, the 100th year of independence. This vision encompasses various facets of development, such as a) economic growth, b) environmental sustainability, c) social progress, and d) good governance, to make India a developed nation by 2047. This chapter is above to find the strategies to achieve the above four important facets of Viksit Bharat 2047 goals.

**Introduction:**

The four important facets of Viksit Bharat 2047 are namely a) economic growth b) environmental sustainability c) social process and d) good government. Let us discuss in detail about the subcomponents of each. Economic growth: The economy should be able to cope with the challenges of the 21st century based on entrepreneurship, innovation, and competitiveness.

**Air) Focus on Agricultural Growth:**

Indian economic growth for the last two decades is a success story when compared to many nations in the rest of the world. Showing a growth rate of 6 to 8 percent on average is a big achievement. However, India's economic growth has some peculiar features. India has not developed fully in agriculture but has shifted to industrial production. The recent figures on the agriculture growth rate show it is much less than the targeted growth of 4%. If agriculture growth is maintained at 4% for ten years continuously, poverty in India can be eradicated. The average yield per hectare is much lower than the world's average yield per hectare for many crops. The yield per hectare is not uniform throughout the country, as it varies from state to state and region to region. It is not exaggerating to say India is able to send a man to the moon, but we do not have the right fertilisers to save crops. As Indian agriculture production is based on monsoons, these fluctuations are common. We are not able to find the right solutions for it.

**The following are some suggestions to improve this:****Integration of Rivers:**

Even though it is an old concept, the Government of India did not put sufficient efforts in this direction. By integrating rivers, we can supply water to the cities as well as to the farmers. We can avoid the waste of rainwater.

**Contract farming:**

Contract farming will help increase the yield per hectare as it is done on a scientific basis. Sustainable farming, with the help of contract farming, will be the long-term solution. All the above steps are needed because the agriculture sector contributes 33% of the Indian work force, even though its contribution to GDP is less than 16%.

### **Educating the farmers:**

Some of our software engineering are shifting from software to agriculture. There is a lot of scope for increasing the income from agricultures. However, majority of Indian farmers are following old traditional methods of farming and they do not make use of the technologies available. If the right education is offered to them to use the updated technology, updated fertilisers, the yield per can be further increased. Due to various methods of farming in India, the yield per hectare for the same crops vary from region to region. By sharing the information with all the farmers, definitely the yield per hectare for many crops can be further increased. University should offer various courses on agricultural management and agricultural marketing. Internships should be offered in the agricultural sector and can be made mandatory for all the students.

### **Avoiding the wastage of food:**

This is a big concern in India as some people do not have meal for two times at the same time many will waste the food. Lot of food is wasted due to negligence among the Indians. If the people how much efforts are being made to get 100 grams of rice or wheat they will not waste the food. At the same time we do not have sufficient storage facility. We can see that farmers throwing tomatoes and other vegetables on the road when the prices are too low. Food Corporation of India itself declares the 8 per cent of the stored grains are eaten by rats. The total loss in the storage is much higher. The old proverb say penny saved is penny gained, similarly 100 grams of grains saved from the wastage is 100 grams of grains produced.

### **A. ii) Focus on Industrial Production:**

The contribution from industrial production towards GDP is not showing encouraging growth. India did not have completely grown in industry but shifted to services. Today, services contribute 65% of GDP, while industrial production contributes less than 20% but contributes above 30 percent of employment. There is a simple mechanism to check whether we have developed industrially or not. How many Indian brands do we use from morning to evening in our day-to-day lives? will give the right answer.

It is not exaggerating to say we import even stapler pins from foreign countries. Today, China is the number one trading partner with India, with \$118.3 billion in FY24. Out of which, we import to the extent of \$101.75 billion, and the remaining balance we export. We are depending on China so much, which is not a good sign. If we look into the element of importing items, many of them can be easily manufactured in India. For the developing nations it is good to import capital goods and export finished goods. India imports consumer goods and exports raw materials. Only exception to the above is services industries.

The major chunk of our import bill is from petroleum products. It is right to shift our focus on non-conventional energy resources. There is lot of development in use of solar power development. But there are many unutilised opportunities. In some states solar roof topping is made compulsory however they bring solar roof topping for temporary and remove it after the inspection is over. It is right to regulate such practices in future by taking the necessary action the concerned authorities who sanctioned the permission.

#### **Focus on Infrastructure:**

There is a huge need for investment in infrastructure. To sustain industrial growth, infrastructure should grow at a double-digit rate. This is known to all the finance ministers of the nation, but sufficient efforts are not made in this direction. When we compare the industrial development with the other developing countries, the growth rate is not encouraging. The main reason for this is lack of infrastructure. After 76 years of independence still there are some States having power cut as a common phenomenon. Some industries complain that the quality of the goods are deteriorating during the transporting the goods from one place to other place.

#### **Focus on Skill Development:**

Make in India started with a lot of hope, but it did not give the expected results for various reasons. It is interesting to note that the logo of the Make in India campaign was designed by a foreigner. The new education policy is good in policy but has poor implementation. To implement NEP 2020, first teachers should be trained so that they can train the students.

The government of India had taken several measures in the area of skill development. However, there is a need to support them financially so that they can start their own business.

### **Need to Invest in Research and Development:**

The average investment in research and development by industry and government is in double digits. While it is less than one percent, India. Thus, there is a need for huge investment in research and development to develop innovative solutions for the development of the nation.

### **A Focus on Entrepreneurship:**

Employees work for others, while employers work for themselves. However, in Indian culture, entrepreneurship is not well respected. The government had taken a lot of steps to encourage entrepreneurship, but they will not be sufficient and will not yield the expected results. Entrepreneurship concepts should be inculcated among the students from an early age. All management institutions should make entrepreneurship specialisation compulsory. All IIMs should take the lead in direction and should focus on developing entrepreneurs rather than employees for MNCs.

### **B Environmental Sustainability:**

The less we talk about climate change based on restoration, conservation, and resilience in India, as it is a developing nation, Sustainable development goals are far from reality in many countries, as they are struggling for basic needs like hunger, thirst, and clothes. There are many countries with poor or no development; for such countries, achieving SDG goals is near impossible. Many developed nations are making the right efforts in the right direction for environmental sustainability, but there is still a long way to go. Awareness has increased among the people, and some are making the necessary efforts in the right direction. For example, many engineering students are offered sustainable engineering and green engineering as specialisations in engineering. Implementation of sustainable development requires large amount of investment which can be affordable only be developed nations. Developing nations and under developing nations have other priorities like development of present communities rather than future communities.



## **Sustainable entrepreneurship:**

Sustainable development ventures in the purview of sustainable entrepreneurial ecosystem arises to create economic, social and environmental value (Pando, Velour, & Schneckenberg, 2019). Entrepreneurs to have a sustainable business idea and the actions of sustainable business ventures must be grounded by considering the concerns which are particular to Economy, Environment and Society. To build a sustainable entrepreneurial ecosystem it is very important for the entrepreneurs to focus on creating value proposition which is very much needed for the people (Schaltegger& Wagner,2011).

## **C. Social Progress:**

Another important goal of Viksit Bharat is inclusive growth, which is far from reality in India. According to a survey, the top 10 richest people are contributing 4% of GDP. 10 percent of the Indian public owns 90 percent of the wealth of the nation. The gap between rich and poor is increasing day by day. Even though the government has taken many measures to lift the people out of poverty, India still contributes one-third of the poor people in India. In simple terms, there is a large gap between urban India and rural Bharat in many economic indicators. When we want to learn culture from Western countries, the rest of the world wants to learn from Indian culture. Such is the greatness of our culture. However, many Indians do not understand this, and in the name of fashion, they are losing their passion. Under the leadership of our Prime Minister, we are celebrating International Yoga Day. There is an urgent need for education about culture among youth and children. It is the right time to keep compulsory subjects as part of the curriculum so that they understand the culture and its significance. Many Indians do not understand our culture, which is why they do not give it importance. Once they understand the Indian culture, it is easy to follow it. The other key terms in this objective are equality and diversity. Equality can be managed because of our strong constitution in India. The three pillars of our democracy are the judiciary, executive, and legislative, which ensure equality among Indians. Even though there are some variations in implementation, more or less, we are far better than many countries in the world. With respect to diversity, India is a country with diversity as its foundation.

#### **D. Good Governance:**

Good governance will be used to improve after using the data analysis in the areas of teamwork development, reflection, empathy, and consultation. Viksit Bharat aims for agile governance with a minimum government that allows for maximum governance, i.e., Chanakyan State. The 'state' should aim to run on meritocracy in the implementation of business rules and coordination with zero corruption. This is one of the methods to aim for equality. Institutions play an important role in minimising the difference between rich and poor, which balances short-term and long-term goals. To become Viksit, we have substantially improved the per capita GDP and human development index. In the Indian government, 72 ministers will be there. All of them to work together for the development of the nation. The government is spending hard-earned taxpayer money; it should be used for development rather than politics. The Indian government should focus on skill development and competency development among the youth. India needs technocrats with administrative acumen, as each discipline needs inch-wide, mile-deep human capital rather than a mile-wide, inch-deep perspective.

#### **Conclusion:**

The strategies suggested for achieving the ) economic growth, b) environmental sustainability, c) social progress, and d) good governance are not exhaustive. While implementing the above suggestions one should think of the practical problems and challenges they would face in future because as India is a diversified nation with different cultures. 1.Dar, Mohammad. (2024). VIKSIT BHARAT 2047.Pawar, Gaurav &Harale, Ghansham. (2024). Viksit Bharat @2047: Challenges and Opportunities.

2. S., Velamuri, V. K., &Schneckenberg, D. (2019). Towards sustainable entrepreneurial ecosystems: examining the effect of contextual factors on sustainable entrepreneurial activities in the sharing economy. *Small Business Economics*. <https://doi.org/10.1007/s11187-019-00255-5>

3. Paxar, Aura &Harare, Grantham. (2024). Viksit Bharat @2047: Challenges and Opportunities.

4.Schaltegger, S., & Wagner, M. (2011). Sustainable Entrepreneurship and Sustainable Innovation: Categories and Interactions. *Business Strategy and The Environment*, 20, 4,227-237

# **EMERGING ROLE OF SOCIAL STOCK EXCHANGE IN INDIA**

**Shlok Sujitkumar Chatham**

Assistant Professor Anand Institute of Business Studies

## **Abstract: -**

The emerging role of Social Stock Exchange in India signifies a paradigm shifts in financial market emphasizing the integration of profit with social impact. This explores the evaluation of stock exchange their objectives and the potential they hold for channelling investment towards enterprises committed to social welfare development and environmental causes. The analysis delves into regulatory framework, instrument issued, opportunities and challenges surrounding these exchanging highlighting the role of social stock exchange in fostering sustainable and responsible social business practices in an Indian financial scenario.

**Key words:-** Social Impact, Social stock exchange, Instrument, social business practices

## **Introduction:-**

The concept of Social Stock Exchange in our country start getting emphasis as when the honourable union finance minister as a part of her budget speech for the financial year 2019-2020 had proposed to initiate steps towards creating Social Stock Exchange under direct regulations of SEBI.

The extract of the speech relevant to Social Stock Exchange is as below, "It is time to take our capital markets closer to the masses and meet various social welfare objectives related to inclusive growth and financial inclusion. I propose to initiate steps towards creating electronic fund-raising platforms a Social Stock Exchange under the regulatory ambit of SEBI for listing social enterprises and voluntary organization working for realization of a social welfare objective so they can raise capital and equity, debt or as units like mutual funds." With the reference of Hon. Union finance minister`s speech and timely amending of framework and rules regarding Social Stock Exchange..... It is an electronic fund-raising platform that allows alternative fund raising structure to social enterprises like Non-profit organizations, Non- government organizations and for profit organizations.

This particular organization provide platform to raise the funds from public. Where social enterprises include revenue generating business whose primary objective is to achieve social objective. Social enterprises means organizations where it is Non-profit organizations and for profit organizations that engaged in social upliftment. These social enterprises shall be involved in one of the 17 activities identified under ch. XA of ICDR (Issue of Capital and Disclosure Requirements). It shall target underprivileged population groups or areas and shall have 67% of the activities qualifying as eligible activities to target population.

### **Objectives of Study:-**

- 1.** To analyze the current amendments in Social Stock Exchange.
- 2.** To study the raising need of Social Stock Exchange in our country.
- 3.** To analyze various instruments that issued by Social Stock Exchange and its effects on investors, donors.
- 4.** This Study mainly focused on increasing awareness of social stock exchange in simple way.

### **Research methodology:-**

This research is based on secondary data sources in which data is collected from various journals, research papers, articles, reports and websites.

### **Literature Review:-**

Narrowing downwards India the government has on July 5<sup>th</sup> 2019, proposed union budget brought major significance on social enterprises and voluntary organizations paving a way towards revolution of social stock exchange into Indian market. This implies that there is a shift towards sustainable management with raise in capital for social welfare and also on environment. Sanjana s. (International journal on advanced research in commerce, management and social science – Dec.2019)

1. The role of Social stock exchange is almost similar to that of any other stock exchange where securities issued by corporate are listed, same as the stock exchange provided a platform for raising the capital for business community.

2. Social Stock Exchange is going to provide a platform to all social enterprises to raise funds. Shamikdas Gupta (Practicing C.S., SEBI empanelled arbitrator of NSE, BSE, MCX, NCDEX, CSDL)

3. Social stock exchange refers to a separate segment of recognized social enterprise having nationwide trading terminals permitted to be registered for NPO and list the securities issued by NPO in accordance with provisions of SEBI.

.... Report of Institute of Cost Accountant of India

### **Types of Social Enterprises which are eligible to register in SSEs:-**

There are majorly two types of enterprises that work for social, environmental and welfare development causes which are as follows....

#### **1) Non - profit organizations (NPOs)**

A trust or an organization which is registered under Trust act 1882A charitable trust registered under the public trust statute of the stateA charitable society registered under society's registration act 1860A company incorporated under section 8 of company's act which work for social causes without motive of any profit.

#### **2) For profit organizations (FPOs)**

These types of organizations or body corporate which is operating for profit motive but having social intent and impact as their primary objective. These organizations are not included in under section 8 of Company's act 2013. As there are many types of activities done by NGOs/ NPOs or social enterprises to raise the funds but due to certain problems that raises funds with the help of social stock exchange. These trusts are able to raise funds electronically. At present our country having 3.4 million NGOs, from which 1,89,997 NGOs are actively working in various fields with the help of government agencies.

They are striving to develop the living standards and trying to protecting the interest of particular group/area or community which is under privileged or under developed. Such NGOs are far better in their working areas but somewhere they are lacking in terms of funding, so Social Stock Exchange role takes precedence. SSE lists funding channels for social sector and offers a set of procedure that act as a filler which enlist only those NGOs or trusts which creates measurable social impact and reporting of it. The above enterprises registration certificate will valid till next 12 months at the time of seeking registration.SSE which owned or controlled by Government or private. These NGOs having 3 years of age after registration for one time. Such enterprises must have 50 lacs of receipts or payment from audited account and funding in past financial years must be 10 lacs.

### **Framing of Social Stock Exchange:-**

In the line with the recommendation of working committee and expert group SSE may be created as separate segment on stock exchange which only deals or trade in capital of NGOs/NPOs/FPOs or social enterprises.Social Stock Exchange framed under complete rules, guidelines and prescriptions of SEBI and proposed to make necessary amendments made to SEBI's Issuance of Capital and Disclosure Requirements (ICDR) 2018. Subsequently SEBI in September 2019 constituted a working group under the chairmanship of shire Shoat Hussain to inter alia make recommendations on possible structure and mechanism within security market domain.The central government in the notification published on 16<sup>th</sup> July 2022 made it mandatory that only listed NPOs will allowed to raise funds through ZCZP (Zero Coupon Zero Principal) bonds and the security shall be registered in SSE segment of stock exchange.

Accordingly a new chapter (IX-A) comprising regulations 91 A to 91 F is already introduced SEBI by amending LODR (Listing Obligations and Disclosure Requirements) 2015 and lays down the frame work for SSEs effective from 25<sup>th</sup> July 2022 and on the same date SEBI notified ICDR (Issue of Capital and Disclosure Requirements). Third amendment 2022 and introduced exclusive Chapter X-A to regulate SSEs.

SSE provide social enterprises with an additional revenue to raise funds at same CSR implementing partners with regards to Social Stock Exchange, SEBI provide certain framework are as follows....

- Amending SEBI ICDR 2018 (Third amendment 2022)
- Amending SEBI LODR 2015 (Fifth amendment 2022)
- Amending SEBI Alternate Investment Fund(AIF) regulations 2012 called SEBI AIF Third amendment 2022

### **Features of Social Stock Exchange: -**

- 1.** It is an electronic foundation that helps to lift up funds for social enterprises.
- 2.** It refers to a separate segment of recognized stock exchange having nationwide trade permit for NGOs.
- 3.** It completely framed and established under the rules and guidance of SEBI.
- 4.** It fill up the gap of funds for Social Enterprises like NGOs/NPOs/FPOs that are working for social causes.
- 5.** It only allows the Social Enterprises which came under the criteria developed by SEBI ICDR ch. X A
- 6.** It lists funding channels for social enterprises by various instruments.

SSEs are the institutions which bridges the gap between NGOs/NPOs and private capital funds. It links the social enterprises and investors.It is a platform that enable NGOs to trade their shares after going through audit.

### **Vision of Social Stock Exchange:-**

The SSE`s vision is to create transparent, accountable efficient funding mechanism for social enterprises. The SSEs seems as catalyst in promoting sustainable and equitable development by aligning capital with social and environmental causes.



### **Requirements for registration:-**

Before raising funds through social stock exchange, NPOs should mandatory to seek registration with SSEs. The minimum requirements for registrations of NPOs are specified by SEBI time to time. For registration in SSE NGO must hold certificate under section 12A/12AA/12AB of Income tax act which recognize the NGOs exemption status. NGOs must have a valid 80G certificates enabling donors to claim tax deductions. 3 step process of registration as follows.

1. Submit application by NGOs in prescribed manner with necessary documents.
2. After submission of application SSE will scrutinize and review an application and attached documents to compliance with eligibility criteria. After that SSE will visit of site and seek additional information.
3. Finally after analyzing all situations and documents NGO will receive approval to access various fund raising instruments.

### **Means by which a social enterprise can raise funds through Social Stock Exchange: -**

SSE recommends for registered social enterprise to raise funds and get exposure to capital market by following modes as instruments of raise funds....

- A. For NPOs(Non-Profit Organizations)
  - ZCZP (Zero Coupon Zero Principal bonds)
  - Donations through mutual funds
  - Any other means that specified in future
- B. For Profit Social Enterprises
  - Issue of Equity shares
  - Issuance of debt security
  - Any other means that specified in future

## **For NPOs (Non-Profit Organizations)**

### **1. Zero Coupon Zero Principal bonds (ZCZP)**

ZCZP bonds shall be issued only by NPOs registered in SSE. ZCZP bonds will have zero coupon rate and no principal amount shall payable on maturity. This ZCZP instrument do not offer fixed interest or repayment returns but promises social return to the fund giver.

This bond issued only for specified project or activity which fall under the list of eligible activity under section 292 E of SEBI regulations for specified duration of project.

As the technical group report on SSE and SEBI notification on 25<sup>th</sup> July 2022 the minimum subscription required to be achieved shall be 75% of the funds proposed to be raised through issuing ZCZP instruments.

Eligibilityfor issuing such bond and conditions for issuance this instrument.

- 1.** ZCZP instrument shall be issued in electronic form only.
- 2.** Minimum issuance size shall be 1 crore rupees.
- 3.** Minimum application size be 2 lac rupees.
- 4.** Minimum subscription shall be 75% of fund proposed.
- 5.** In case of under subscription following details shall be provided...
  - Manner of raising capital in case of such under subscription.
  - Possible impact on achieving social objective in case of under subscription and funds shall be refund.
- 6.** Social Enterprise maintains details of allotments pursuant to issuance of ZCZP.
- 7.** SSE shall be specify additional norms in respect to issue procedure including an agreement with depositories, banks etc.

## **Issuance of ZCZP:**

### **A) Public issuance:**

1. NPO shall file draft fund raising document with SSE where it is registered along with fees as specified by SSE and application seeking in principal approval.
2. The draft fund-raising document shall be made available on website of SSE and NPO period of at least 21 days.
3. The SSE shall provide its observation on the draft fund-raising document within 30 days from filling of the draft fund raising document.
4. NPO shall incorporate the observations of the SSE in draft fund raising document with prior to opening an issuance.

### **B) Private issuance:**

1. NPO registered on SSE also make private issuance of ZCZP social impact fund instrument registered under the applicable provisions of the SEBI regulations 2012.
2. The provisions related to public issuance on ZCZP specified applied to private issuance.

## **Termination of ZCZP bonds:**

In following conditions ZCZP bonds shall be terminated....

- A.** The object for which the funds were raised has been achieved and certificate to this effect is submitted to SSE.
- B.** The tenure to achieve the object of fund for which the funds has to be raised has expired.

## **2. Donations through Mutual Funds**

Mutual fund is professionally managed investment scheme usually run by an asset management company which invests funds collected from public into various assets like stocks, bonds etc. in the same context NPOs shall eligible to receive donations through mutual funds as the mutual funds are investing currently in bonds, stocks and any other assets with the same context. Mutual funds give their income for charitable purpose. In future time NPOs will have to be registered with SSE to access such funds.

### **3. Any other means as may be specified by SEBI in future**

Currently the concept of social stock exchange is a first experience for our country, so for modernization and amendment in provisions, Technical group and working group is appointed to work for provision and structure set up.

#### **For FPOs(For Profit Organizations)**

##### **A) Issuance of Equity shares**

As SEBI specified that such FPOs are not as per company act 2013 section 18, which generally collect or raise funds by issuing equity shares in market for which following procedure shall be followed. An issuer has to follow few step procedures prior to making an application for listing its securities.

##### **1. In principal approval of draft prospectus:**

An issuer shall file the draft prospectus along with document mentioned. This draft shall be prepared in accordance with SEBI ICDR. An issuer may particularly keep in mind the provisions of the company act security contract and relevant subordinate legislations there to.

##### **2. Submission of application:**

An issuer shall require to submit the draft along with application and relevant documents.

##### **3. SSE permit an issuer after analyzing:**

The minimum income and spending also with the position of social enterprises in form of assets and relative activities mentioned in Ch. X A of ICDR.

##### **B) Issuance of Debt securities**

An NGOs who are registered in social stock exchange are issue debt security bonds or debentures for raising funds in SSE. This gives social returns instead of capital and interest on bonds. But before issuance of such kind of securities issuer NGO must have fulfil criteria requirement of SSE.

### **Social Impact Funds (SIF):**

Whatever activities from the list of 17 given by SEBI amendment shall be done by any NGOs, generate an impact on society and with that impact NGOs shall be able to raise funds. SSE aims to integrate social impact with their standards aligning India with global trends in impact investors. The securities permitted to be issued by social impact fund “Social Units” which has been defined under the regulations to mean these units issued by SIF to investors who have agreed to receive only Social Return or benefits, No financial returns against their contributions.

### **Following are the regulations which affect SIF framed by SEBI:**

1. Minimum corpus requirement for SIF shall be 5 crore instead of 20 crore.
2. For SIF's investing only in securities of NGOs registered in SSE the minimum application size shall be 2 lacs instead of 1 crore.
3. Minimum value of grant that must be accepted by SIF has been reduced of rupees 10 lacs from 25 lacs.

In short SIF directly connects Donors or Investors to such kind of needy NGOs who are engaged in deploying social welfare development activity where. Donor provides funds to SIF – SIF invests in social project which develop social welfare – the return provide to donor in form of social return.

### **Ineligibility to raise funds through SSE:**

The social enterprise will be unable to register or raise funds through SSE where...

1. If Social Enterprise, any promoter of Social Enterprise, director of Social Enterprise, shareholder of Social Enterprise, trustees of Social Enterprise are debarred from accessing the security market by SEBI.
2. If Social Enterprise, any promoter of Social Enterprise, director of Social Enterprise, shareholder of Social Enterprise, trustees of Social Enterprise are wilfully defaulter or fraudulent borrower.

3. Any promoter of Social Enterprise, director of Social Enterprise, share holder of Social Enterprise, trustees of Social Enterprise is fugitive economic offender.

4. Any promoter of Social Enterprise, director of Social Enterprise, share holder of Social Enterprise, trustees of Social Enterprise has been debarred from carrying out it securities or raising funds by ministry of Home affairs or any other State or Central government ministry.

### **Conclusion:**

In conclusion the concept of Social Stock Exchange represents a promising step towards aligning financial market with social and environment goals. By providing dedicated platform for impact driven enterprises. It facilitates the flow of capital towards businesses committed to positive social change.

This innovative approach not only encourages responsible investing but also promoting transparency and accountability as government. Investors and corporation increasingly recognize the importance of sustainable practices on SSE as a pivotal tool in fostering a more inclusive and environmentally conscious global economy.

### **References:**

1. [https://www.sebi.gov.in/sebi\\_data/meetingfiles/oct-2021/1633606607609\\_1.pdf](https://www.sebi.gov.in/sebi_data/meetingfiles/oct-2021/1633606607609_1.pdf)
2. <https://www.nseindia.com/sse>
3. Standards and norms, resource support on NGO governance, accounting and regulations (vol. XV issue 4)
4. A report of corporate law committee, The Institute of Cost Accountant of India (February 2023)
5. Daena: International Journal of Good Conscience. A9 16(3) 1-9, November 2021
6. “Framework for Social Stock Exchange” and SEBI notification dated 25<sup>th</sup> July 2022 on ‘SEBI (ICDR)’ regulations, 2022.
7. Technical Group Report on Social Stock Exchange.
8. Framework for Social Stock Exchange by SEBI.
9. Working Group Report on Social Stock Exchange.

- 10.** Document "Framework for Social Stock Exchange" can be accessed at [https://www.sebi.gov.in/sebi\\_data/meetingfiles/oct-2021/1633606607609\\_1.pdf](https://www.sebi.gov.in/sebi_data/meetingfiles/oct-2021/1633606607609_1.pdf)
- 11.** Press release "Union Budget proposes creation of a social stock exchange- under theregulatory ambit of Securities and Exchange Board of India (SEBI) for listing socialenterprises and voluntary organisations" can be accessed at <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1577396>
- 12.** Document "Technical Group Report on Social Stock Exchange" can be accessed at [https://www.sebi.gov.in/reports-and-statistics/reports/may-2021/technical-group-report-on-social-stock-exchange\\_50071](https://www.sebi.gov.in/reports-and-statistics/reports/may-2021/technical-group-report-on-social-stock-exchange_50071).
- 13.** htmlDocument "Working Group Report on Social Stock Exchange" can be accessed at [https://www.sebi.gov.in/reports-and-statistics/reports/jun-2020/report-of-the-working-group-on-social-stock-exchange\\_46751.html](https://www.sebi.gov.in/reports-and-statistics/reports/jun-2020/report-of-the-working-group-on-social-stock-exchange_46751.html)
- 14.** SEBI notification dated 25 July 2022 on 'Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) (Third Amendment) Regulations, 2022' can be accessed at [https://www.sebi.gov.in/legal/regulations/jul-2022/securities-and-exchange-board-of-india-issue-of-capital-and-disclosure-requirements-third-amendment-regulations-2022\\_61171.html](https://www.sebi.gov.in/legal/regulations/jul-2022/securities-and-exchange-board-of-india-issue-of-capital-and-disclosure-requirements-third-amendment-regulations-2022_61171.html)

# **VIKSITH BHARATH 2047-AN AI BASED COMPOSITE HYBRID TEACHING-LEARNING APPROACH**

**Dr. Shalini H S**

**Dr. P V Raveendra**

**Dr. Y M Satish**

Associate Professor, MBA Department, Chary Bangalore B-School (Autonomous), Bangalore.

Professor, MBA Department, Rakaia Institute of Technology, Bangalore.

Professor, MBA Department, Rakaia Institute of Technology, Bangalore.

## **Introduction**

Visit Baath means “Developed India” which is the vision for India by 2047 which was proposed by our Prime Minister Sri Narendra Modi ji along with our Finance Minister Smt. Nirmala Sitharaman. Several themes have been put forward keeping in mind different sections of the society for inclusive development. The lime light of this chapter is the “Empowered Indians” perspective keeping in mind the education aspect of it. Today’s children are tomorrow’s responsible citizens. Hence it is very important to consider them as the true wealth of our nation and bring in a new perspective of education involving Artificial intelligence as one of the integral components of their composite learning. In this chapter the context of composite learning refers to 21<sup>st</sup> century teaching learning which involves knowledge, skills and character.

**Keywords:** Artificial intelligence, Education, Empowered Indians, Meta Learning, Visit Baath 2047.

## **Introduction:**

AI is considered as any technology impacting decision making, future predictions, and useful recommendations involving text, images or audio visuals. In recent years machine learning and deep learning have gained lot of importance where the machines are trained to repeat the same work which are programmed by humans through algorithmic codes.



These machines produce outputs that are adaptive, imprecise and emergent and the most important phenomenon is like a human feeling. It was way back in 2015 the Google revolutionized web each using machine learning after replacing classing hand-crafted information retrieval techniques. In the year 2020, Deep mind developed machine learning for Googlemaps navigation route finding and in 2022 OpenAI launched generative models for creating human like text and get outputs just like human like texts through ChatGPT and also developing realistic images using DALL-E. For some of the stakeholders AI is viewed as a Funhouse Mirror however AI can have different views and dimensions so that it is very difficult to make AI as accountable or responsible for any kind of pleasant or unpleasant events as it is completely trained by human beings. So there is no good or bad aspect of AI. Experts also have the opinion that AI should be used as a complement to the teacher but not as a substitute to a good teacher. According to a statement made by Mr. Sal Khan in one of the interviews with common wealth club, “If you want me to choose between an Amazing technology and no teacher and Amazing teacher with No technology, I will definitely choose an amazing teacher with no technology”. So the fact that AI replaces teachers in the future generation to come is a myth. AI finds its application in education in many areas based on the role that is performed by the AI users. Therefore the users of AI in education can be categorized into following segments:

**Chart 1.1: Users of AI in Education**

Students	Teachers	Management/ Educationalists	Parents/ Guardians	Non-teaching staff
<ul style="list-style-type: none"> <li>• To complete homework and Assignments</li> <li>• Grammar and spelling check</li> <li>• Double check for Hallucinations and bias</li> <li>• To prepare powerpoint presentations</li> </ul>	<ul style="list-style-type: none"> <li>• Tutoring systems</li> <li>• Personalised learning</li> <li>• Translating languages</li> <li>• Grading and assessment</li> <li>• Voice assistance</li> <li>• Smart content</li> <li>• Collaborative learning</li> </ul>	<ul style="list-style-type: none"> <li>• To enhance data driven decision making               <ul style="list-style-type: none"> <li>• Enhanced assessments</li> </ul> </li> <li>• For increased accessibility and inclusivity</li> <li>• To promote remote learning and online education</li> <li>• To streamline the work of teaching staff towards fruitful activities               <ul style="list-style-type: none"> <li>• To design curriculum</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• To help their children in completing homework and assignments</li> <li>• To understand the apps and the task performance through apps</li> <li>• To upload contents to apps</li> </ul>	<ul style="list-style-type: none"> <li>• To maintain database</li> <li>• For efficient filing system</li> <li>• For better workflow</li> <li>• To have quick access to the required information</li> </ul>

**Source: From Literature Review**

AI is becoming an integral component of education day by day to either the direct stakeholders like teachers and students or the indirect stakeholders namely the management of the company, parents/ guardians and non-teaching staff. Teachers will play a significant role as they are the nerve centers of Teaching-Learning processes. As per the views expressed by Ms. Mel Parker, Former Head Teacher and Education Technology Specialist 66% of the teachers are at the receiving end of work written by AI, 56% of the teachers want a better training program in AI usage and 31% want government to better regulate the use of AI in education field. Government should have proper regulations regarding usage of AI in education as AI cannot be held responsible for any kind of mistake or the damage that is caused because of the decision made backed up by AI. When we are stressing upon the term AI let us have a basic understanding of the seven stages of evolution of AI which can be depicted in the chart below:

**Chart 1.2: Stages of AI Evolution**



Source:<https://www.bing.com/videos/search?q=users+of+AI+in+education&view=detail&mid=1D98DEE9C0233BED0F521D98DEE9C0233BED0F52&FORM=VDMCNR&rvsmid=D8B76A9255256C742368D8B76A9255256C742368&ajaxhist=0>

**1. Rule based AI systems:** These systems operate on a pre-defined set of rules given by program developers through algorithms. They generate outputs that are reliable and consistent but they have limited functions as they are completely programmable.

**2. Context awareness and retention systems:**In this stage the AI has the capability to remember the previous interaction and it will carry forward the same to the next conversation. For example if a user searches for IPL cricket score and in the next search if the user asks who won? Then AI will assume that “who” is asked in the context of a cricket team.

**3. Domain specific mastery systems:**This kind of AI will have mastery over a specific domain they such AI’s are experts than the human beings which are trained in that area, may it be in playing chess or a board game.

**4. Thinking and reasoning AI Systems:**These systems try to simulate the human thought process. They are capable of generating ideas, analyze market trends and also based on the analysis they suggest suitable trading strategies.

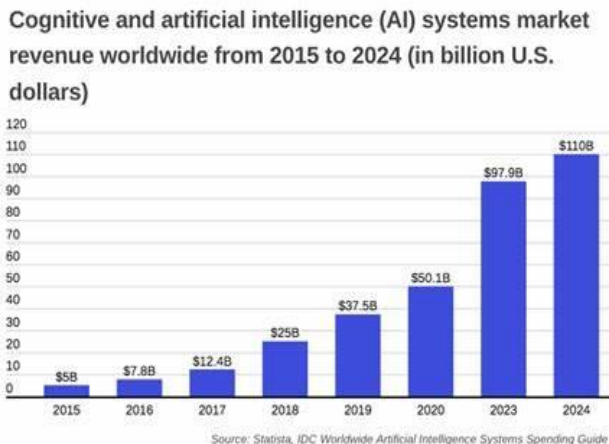
**5. Artificial general intelligence (AGI):** This is an exact replica of human intelligence in all aspects. In this the AI can perform any intellectual task a human being can. This concept remains as an unachieved task so far but not far from reality in future days to come.

**6. Artificial super intelligence (ASI):** This is more advanced level of AI in which it becomes complicated to understand what is and is not an artificial intelligence as it can come up with better solution to problems including macro-economic problems which are sometimes better than the solutions suggested by human beings.

**7. AI Singularity:**The term singularity is derived from physics term which represents a centre point in a black hole where the rules breakdown. In AI context it refers to a stage where in AI will succeed faraway from human beings with self-improvement and self-regulation. This concept is thought to be highly speculative and conceptual. Based on the above inputs we can easily predict that the role of AI in education is going to increase in the future days to come.

5 years down the lane it is predicted that AI will tighten the collection and collaboration between teachers and students. Of course, it is a fact that AI can never replace teachers but it can support the teachers to make them comfortable in the process of designing curriculum, teaching the way in which the students understand the concepts in a better way, evaluating and assessing the students based on their performance and the most important is giving feedback on the assessment done which is very challenging. At all these stages teachers should make sure that they retain their role when they use AI. So AI is going to increase its presence in the future days of education wherein there could be virtual classrooms that can be implemented in order to make the sessions more practical oriented and information based. Particularly after the Covid-19 pandemic the presence of IA is increasing day by day and the students can personalize their classes based of the level of input they need as per their requirement. This is the reason that the market revenue of AI start-ups are increasing year on year from the year 2015 to 2024 as given below:

**Chart 1.3: Worldwide Market Revenue of CI and AI**



Source:<https://startupanz.com/global-artificial-intelligence-spending-surge-120-hit-110bn-2024/>

From the above chart it is found that the market revenue of AI has significantly increased from \$58 billion in the year 2015 to \$1108 billion in the year 2024.

**Benefits of using AI in Education:** Artificial Intelligence (AI) has significant potential to address challenges in education, innovate teaching practices, and accelerate progress toward Sustainable Development Goal 4 (SDG 4). Here are some insights related to AI in education:

**UNESCO’s Perspective:**

- UNESCO recognizes the transformative power of AI in education and aims to guide its application with core principles of inclusion and equity.
- Their publication, “Artificial Intelligence and Education: Guidance for Policy-makers,” fosters readiness among education policy-makers.
- UNESCO emphasizes a human-centered approach, ensuring that AI doesn’t widen technological divides.

**Microsoft’s Survey:**

According to a recent survey by Microsoft:

- 47% of education leaders use AI daily.
- 68% of educators have used AI at least once or twice.
- 62% of students have also used AI.

**AI Implementation in Education:**

- AI tools include intelligent tutoring systems, data analytics platforms, and virtual assistants.
- Educators leverage AI to enhance student engagement, personalize learning experiences, and provide timely feedback.

**Positive Impact of AI:**

- AI-powered textbooks level the educational playing field in countries like South Korea.
- AI can positively impact educational outcomes by enhancing teaching and learning processes.

**Disadvantages of using AI in Education:** While there are advantages to using artificial intelligence (AI) in education, there are also some disadvantages to consider:

**Bias:**

- AI systems can perpetuate biases if trained on biased data.
- Students might receive biased responses or grades based on their race, gender, or other factors.

**Errors:**

- AI may generate misinformation due to errors in the data it draws from.
- Information provided by AI should not be assumed to be accurate without verification.

**Cheating:**

- Students can use AI tools to write essays, answer questions, or complete homework.
- Some AI programs can detect AI-generated content, but false positives may occur.

**Reduced Human Interaction:**

- Overreliance on technology may reduce human interaction, impacting social and emotional development.

**Digital Divide:**

- Some students may struggle to adapt to AI in the classroom, creating a digital divide.

**Strategies to promote responsible use of AI in education:** Here are some strategies to promote responsible use of AI in education:

- Educate about AI Ethics and Responsible Use:
- Introduce students to the ethical implications of AI, including privacy, bias, accountability, and transparency.
- Encourage discussions and critical thinking to foster awareness of the challenges associated with AI in education.

**Foster Digital Literacy:**

- Help students develop the skills needed to navigate AI tools effectively.

- Teach them how to evaluate information, recognize biases, and make informed decisions.

**Promote Transparency and Explain ability:**

- Be transparent about the use of AI tools in the classroom.
- Explain how these tools work and their impact on learning outcomes.

**Emphasize Responsible Data Use:**

- Teach students about data privacy, consent, and responsible data handling.
- Encourage them to use AI tools ethically and responsibly.

**Encourage Ethical AI Design:**

- Discuss the importance of designing AI systems that align with ethical principles.
- Explore how AI can benefit society while minimizing harm.

**Explore Real-World Examples:**

- Share case studies and examples that highlight both positive and negative aspects of AI in education.
- Help students understand the real-world implications of AI technology.

**Promote Collaboration and Teamwork:**

- Encourage students to work together, discuss AI-related topics, and learn from each other.
- Collaborative learning fosters responsible AI use.

**Encourage Critical Thinking and Reflection:**

- Prompt students to reflect on their own use of AI tools.
- Help them consider the impact of AI on their learning experiences and broader society.

**Conclusion:**

Finally we can conclude that AI holds promise for education, but it's essential to balance technological advancements with equity and inclusivity.

If calls for integrating with organizations like UNESCO and exploring innovative solutions for leveraging AI for education. Responsible AI use involves not only understanding the technology but also considering its ethical implications. In summary, AI holds immense promise for education, but responsible implementation is crucial to maximize its benefits which are an integral component of good governance in this Amrit Kal.

**References:**

- Artificial Intelligence in Education Promises and Implications for Teaching and Learning by Wayne Holmes, Maya Bialik, Charles Fadel
- Global AI Spending To Surge 120%, Hit \$110 billion by 2024 – startupanz.com
- The 7 Stages of AI - Bing video



# **“PROSPECTS AND OPPORTUNITIES IN RETAIL SECTOR”**

**HarishKumarS**

Assistant Professor, Department of Commerce and Management,  
Indus Valley Degree College, Bangalore

## **ABSTRACT**

Service industry is performing a pivotal role in creating employment opportunities in India. The retail industry is one such sector that offers a number of job opportunities in merchandising, store management, central management and centralized buying. Retail continues to grow at a rapid rate offering face-paced, people-oriented, and service-based careers. The retail industry is focused on the sale of goods or merchandise from a specific location for direct to customer by the purchaser in-line retail red-tailing gist par to fetched rental lindy story state quick ligroin. Toadying urban areas KIRANAS HOPS cone pits developing in to malls and retailing chains. Service sector contributes 65% to total GDP of the economy. Retail is one of the main contributors to the India's GDP and contributed about 10 per cent of the country's GDP. The sector entreat eight percent them alimentations thee economy. The future retail industry is promising: the market is growing; government policies are becoming more favourable and emerging technology idea sure fax militating operations. The changing scene arioso finding consumers give a proof to the potential opportunity in the retailing arena. Like other branches of management, retail management is also developing in a promising and bright career option. This ran dine rail seconding die has poduced an additional 18-10 million jobs in 2021 and 13 million in 2022. Considering the huge potential of retail industry in India, it is necessary to research and comment on the career options in Indian retail sector. Against this background, the present paper discusses various aspects of career options in the retailing industry in India.

**Keywords:** GDP, Service Sector, Retailing, emerging, Employment, Consumption, Industry.

## **Introduction:**

The term 'retail' is derived from the French word retailer which means 'to cut a piece off' or 'to break bulk'.

Retailing is an important functional aspect of business industry that involves selling Products and services to consumers. The word „Retailing“ refers to any activity that involves the direct sale to an individual customer or end users. Retailing has been the most active and Attractive sector of the last decade. While the retailing industry itself has been present throughout the history in our country, it is only the recent past that has witnessed so much dynamism. Retailing has changed a lot during last two decades. It's the latest bandwagon that has been Witnessing hordes of players leaping onto it. In today's dynamic and shaky business world, the retail industry is constantly upgrading itself. With an endless array of customer choices, fierce competitors, pervasive use of the internet, and a complex global economy, retailers need to focus on finding ways to sustain and grow their Businesses. The rapid growth of the retail sector and its deep penetration in various parts of the Country within a very short span of time has now been termed as the retail revolution by India Media. In order to cater to the manpower needs of the retail industry various retail management Courses are being launched by several business schools in India. As the sector is booming in India, a career in retail sector promises good wages and growth potential for the ambitious Youngsters. Retail management is associated with retailing business of departmental stores and shopping malls. There is a big demand for the retail management professionals to process all Merchandise shipments, to achieve store sales and profitability, administration of stores as well as communication with the clients to satisfy them. The candidates are trained in retail and supply chain management, finance management, marketing information, electronic retailing, marketing and business communication, customer relationship etc. Numerous opportunities are available in various stores, books and publishing industries, shopping malls, multiplex, processed food industry, garment industry etc.

### **Evolution**

The world first saw the emergence of retailing in the pre 1850s when the Yankee Peddlers, Bartering, Trading Posts and General stores were in place. The first departmental store was established in 1851 by the name of F & R Lazarus Company in the U.S. Between 1860 and 1910, chain stores and early general stores dominated the scene. In 1932, the first super market was established in New Jersey (Big Bear).

In India the retail market is as old as in the global context. However, the concept organized retailing is comparatively new. Retailing has been one of the prominent driving forces in business in India. Traditionally it has been dominated to a large extent by the unorganized sector. But the growth of the organized sector has been steadily increasing especially after liberalization of the Indian economy. Earlier slogans used in the context was UttarSheri, DayanViper, KanishtNaukari today it seems as UttamNaukari, DuyyamVyapar and KanishtSheti.

### **Distributing Channel System is Functioning Today as:**

Manufacturer → Wholesaler → Retailer → Customer

Manufacturer → Retailer → Customer

Manufacturer → Customer.

### **Impact of Retail Sector in India:**

In India, the retail sector is the second largest employer after agriculture. The retail industry in India is estimated to employ about 10% of the total labour force. The retail industry in India is enjoying boom time and job opportunities in retailing have been increasing. In fact, retailing has emerged as a new stream of management curriculum, providing new areas of employment. The retailing sector in India is highly fragmented and predominantly consists of small independent, owner-managed shops. Given the size, and the geographical, cultural and socio-economic diversity of India, there is no role model for Indian suppliers and retailers to adapt or expand in the Indian context.

- Working in retail requires keen sales skills in order to be successful. Those looking for a Career in retail also need to enjoy working with people since there is constant customer Interaction. It is also important to know how to empathize with customer concerns.
- Enthusiasm, flexibility, Hardworking, Devotion and a positive attitude are essential Characteristics necessary to find success in the retail industry.
- Generally little or no travel is required to work in retail. This allows workers to spend More time with their families.

Those working in retail also have more time to become Involved in the community. Buyers in the retail industry are required to travel.

- The downfall of working in retail is abnormal hours. Because stores are often open nights and weekends, employees work long hours for usually minimal pay.
- Although entry level jobs in retail pay little, workers can advance in specialty jobs or Management positions that offer higher pay.
- Education is not as essential in the retail industry as in other areas of marketing. Senior Executives in retail typically do not have MBA"s, but are hired based on hard work, Experience, enthusiasm, and speed. However, a business and professional education can be Helpful in retail because it provides a better understanding of finance, merchandising, and Inventory control.

In recent years, several Indian and international companies like Reliance, Pantaloons, Wal-Mart, Big Bazaar has rooted their presence in the country. The vacancies in retail sector are available from the entry to seniormanagement level. Career in retail sector can be developed as store Manager, retail managers, retail buyers, retail design/visual merchandise, merchandise planning and product developers.

### **Career and Job Prospects:**

India is one of the top ten emerging retail markets all over the globe. There are approximately 4.3 million retail outlets spread over the nation, which require about 3.25 million retail personnel at Present. With such a huge potential retail management offers limitless job opportunities in supply Chains, exporting houses and departmental stores. Manufacturing companies also recruit retail Managers to reach out to the customers directly. Banking, finance and insurance companies also Need professional retail managers to bring their products directly to the customer. IT and IT Enabled services companies particularly in the field of telecommunication also require large Numbers of retail mangers considering the recent boom in this sector. Besides these education and health career industry also absorb a large number of retail managers. Jobs in the retail sector can bring handsome remuneration and good opportunity to move up the Career ladder fast.

With the tremendous growth of economy, retail management has emerged as one of the fastest Growing careers in the country. The enormous expansion in the retail sector during the past few Years has thrown up a big demand for trained professionals in the field. It is an industry looking for people at all levels, from the school pass out with basic skills, to the well qualified supply Chain and retail management professionals. One can take up a job depending on their interest and Aptitude, since retail industry is an array of activities starting from marketing to branding. This makes retail profession one of the most demanding careers of the era. The working time and atmosphere all depends up on the company one works for. One could start His career as a management trainee, and with hard work and right attitude, could reach the manager posts of different departments. Advertising agencies, Airlines, insurance companies, Banks etc are some other areas where one can find jobs, apart from retail shops. One can even Start their own business and be an entrepreneur.

### **Profiles in Retailing;**

Management trainees. Department managers: Regional managers Sales Personnel StoreManager, Retail Manager, Retail Buyers and Merchandisers, Visual Merchandisers: Supply Chain Distributors Logistics and Warehouse Managers Marketing Executives etc. Trained and talented retail management probespinals are always in great demand not only in India but abroad also.

### **Major Companies providing Career in the Retail Sector:**

Jobs in the retail sector can bring handsome remuneration and good opportunity to move up the career ladder fast. The retail sector in India is dominated by the companies like Reliance India, RPG Group, Westside, Titan, Pantaloons, Raymond's, Food World, Barista, Café Coffee Day, Bata, Trent, Crossword etc. They offer large employment opportunities for the qualified retail management professionals. The multinational companies such as Pizza Hut, Adidas, Nike, Dominos, Kodak, Benetton, Sony, Sharp and Levis are also recruiting the skilled professionals making a career in retail sector lucrative.

## **Remuneration**

The remuneration in the retail industry depends up on the company and nature of the work and area where you work. The average starting salary in the retail industry is Rs 4,000 to 25000 per month depending on various posts and in US one could earn between \$31,000 and \$ 43,000 annually. The special packages, bonus, incentives offered are the peculiarities of this career. Entry-level jobs help workers gain experience as well as learn retail procedures and lingo. Terms such as cross-promotions, sales per square foot and shelf space are commonly used in the industry. The U.S. Department of Labour reports that there are more than 2 million retail businesses employing more than 19 million people in the U.S. Entrepreneurs have great opportunity in the retail industry. Many times, people work in retail to gain experience before opening their own businesses. Success has been attained by many entrepreneurs who took retail ideas to a national level. Clothing stores such as the Limited and the Gap are examples of this.

## **CHANGING WAVES**

The change that organized retail has brought about is evident from how it has transformed the neighbourhood grocery or „Karana“ store Organized retail accounts for merely 2% of total retail market. The pace of development is, of course, still below the desired level but the phased growth has been strong enough to ensure that retail does not go the way some of the other „sunrise“ industries did follow over-investment. Shopping has become a hobby for the new generation. The whole concept of shopping has altered with time, in terms of format and consumer buying behaviour. Thanks to rapid urbanization and sprawling shopping centres, multi-storeyed malls and huge complexes that emerge at an ever-increasing speed in every upcoming city, retailing has grown into one of the largest sectors in the global economy and a booming industry in the present century. As a career, retail management is a dynamic field that offers affluent employment opportunities for talented youth. Basic educational qualifications, as well as personal skills like good communication and analytical mind is needed to outshine in this profession. Even though related with selling, not all the job opportunities in this field are in the stores/outlets themselves.

In this career, one will get openings in sales and marketing, operation, concept and design, buying and merchandising and also in administration. The economic boom and the enormous expansion in the retail sector make this career most sought after. As the competition in this field is very tough, nowadays the shopping malls are doubling up as leisure and entertainment centres, to attract customers. Those who wish to be in this field must be creative and should have new ideas to promote their business. Many multinational companies have come forward in the retailing business. Reliance Group, ITC Retail, Adyta Birla Group, Tata Groups Trent & Westside, Subhiksha, Shoppers Stop, Future Groups Big Bazaar & Pantaloons, Apparel Chains, Raymond's, Arvin Brands, Lifestyle International, Spencer's etc. are some of the top companies.

### **Eligibility & Course Areas**

There are options for taking up a degree or diploma in retail management, for those who choose the career. Various institutes offer courses in retail management such as MBA in retail management, Post Graduate Diploma in Retail Management and so on. In some institutes, retail management is offered as a specialised paper with MBA or other subjects. Candidates having a high school graduation or its Equivalent, plus two or degree can apply for certificate, diploma or bachelors' courses in Retail Management. The MBA in retail Management is more like a specialization than general MBA. The selection procedure for these courses is as same as that of MBA. Retailers Association of India (RAI), the first independent body of retailers in India, conducts a Common Admission Retail Test (CART) on national basis for admission to Postgraduate Program in Retail Management (PGPRM) offered in 15 B-Schools across India. Abroad, there are institutes that offer four-year Bachelor of Science courses in Retail Management.

**Personal skills** Talented, dedicated people, who possess a wide variety of skills, good leadership qualities, positive attitude, and good communication, self-confident are needed to effectively run a large retail business. Merchandising techniques. Enthusiasm and creativity will be always countable in this career. Apart from these, one should have tact, patience, and an interest in sales work, a neat appearance and the ability to communicate clearly.

## **Jobs in India's Retail Sector**

Today, there are approximately 22 million people working in India's retail sector. Experts believe that the current retail boom in India will produce an additional 8-10 million more jobs by 2011 and 13 million by 2012. With rapidly expanding departmental stores and huge shopping malls, plenty of job opportunities are opening all over India. An estimated growth rate in retail sector in India has been about 30- 40% with establishment of more than 200 shopping malls. It is estimated that the retail sector will create over 13 million jobs throughout the country by 2012. More than 60% of these jobs will be available in the rural areas. Retail Industry, one of the fastest changing and vibrant industries in the world, has contributed to the economic growth of many countries. There has never been a better time for a career in India's retail industry. It is also auspicious to hear that about 60 per cent of these job vacancies will be in the rural India. The trend will help a lot to check migration of educated manpower from rural areas to the metro cities. As major companies that are already operating in the sector, including Future Group, Reliance Industries and Retail Solution Group are targeting to multiply its workforce to ten folds, there are about a dozen of world's renowned retail groups are preparing to take.

## **CONCLUSION**

With speedily development and changing scenarios in all areas, concept of living life also Changed. Day by day old concept like kiranadukan, pan duke, various type of stores are replaced with malls, pizza huts, bazaars, chain shops etc. but such changes we can observe in urban areas only. From the above discussion it can be concluded that India will remain the most sought destination for retail giants in the times to come, indicated by its ever-rising contribution to Indian GDP and Employment. In post-recession period, there have been increased job potentials for Indians in all Sectors, especially in retail sector. It also depicts those tremendous opportunities exists in Indian Retailsector dueto increase in GDP and per capita disposable income. The task lying ahead of Indian retail is an onerous one. Plenty of opportunity exists and the formidable task is to tap this Opportunity, in a unique country like India.



## **Future Prospects**

The size of the retail industry is estimated at Rs. 16,000 crore and is growing at the rate of 18-20 percent per annum. Departmental stores and mega malls are coming up in most cities and many more are planned to be opening in the coming years. An increase in purchasing power (NRS survey) of the urban population is leading to a higher demand for better lifestyle which is leading to a need for better shopping ambience, superior quality products and improved service. All these factors form the basis for organized retailing. With the advent of modern technology, Indian retailers have been spending more on setting up IT systems, which augurs well for the retail industry. If FDI is allowed into organized retail, it will be a defining moment into Indian retail as it will allow more foreign players into organized retail, which will lead to increased competition and hence improvement in performance and quality and create more career prospectus and opportunities.

## **BIBLIOGRAPHY:**

Gangly, Say "Retailing Industry in India", Romeo S. Mascarenhas: Marketing in Banking and insurance

Deepak Divan, Dr.MandeepKaur-India and retailing- Two promising Bandwagons of the New Millennium Michel Val: Organisation of commerce and management Levy, Michael; and A. Waits, Barton. Retailing Management. New Delhi: Tata McGraw Hill Publishing Company Limited, 2002. 754 pp. "Retail 2000-01", New Delhi: The Economic Times Knowledge Series, 2001. (CD-ROM). Amphora, Marsh K. Marketing Research: An Applied Orientation. Delhi: Pearson Education, 2003. 763 pp.

## **Websites**

<http://www.articlesbase.com/marketing-articles/future-trends-of-retail-in-india-1315969.htm>

<http://www.naukrihub.com/job-openings/retail-india>, Bureau of labour statistics, U.S. departments

<http://www.naukrihub.com/top-ten-employers/india-retail/>

<http://www.indiaedu.com/career-avenues/career-in>

<http://www.indiaretailjobs.com>

# **“THE IMPACT OF DIGITAL PLATFORMS ON THE EDUCATION SYSTEM”**

**A. Kiran Kumar,**

Research Scholar, Department of Commerce and Management,  
Ramaiah Institute of Business Studies, Bengaluru.

## **ABSTRACT**

The integration of digital platforms in the education sector has transformed traditional learning paradigms, offering new avenues for teaching, learning, and collaboration. This study examines the multifaceted impact of digital platforms on the education system, encompassing various stakeholders such as students, educators, administrators, and policymakers. Drawing upon extensive literature review and empirical data analysis, the research explores the advantages and challenges associated with digital platforms in education. It delves into how digital platforms enhance accessibility, personalization, and engagement in learning, while also addressing concerns related to digital divide, privacy, and efficacy of online pedagogical methods. Additionally, the study investigates the role of digital platforms in promoting inclusive education, lifelong learning, and global collaboration. Through comprehensive analysis, this research aims to provide insights and recommendations for optimizing the integration of digital platforms in the education ecosystem, fostering innovation and equitable access to quality education in the digital age.

## **KEYWORDS**

Learning paradigms, Stakeholders, Ecosystem.

## **INTRODUCTION**

A digital platform is a technological infrastructure that enables interaction and exchange between users, businesses, and data. It serves as a foundation for various online activities, such as e-commerce, social networking, and content sharing. Digital platforms provide tools and services that facilitate communication, transactions, and collaboration in the digital realm. Examples include social media platforms like Facebook, e-commerce platforms like Amazon, and content-sharing platforms like YouTube. A digital platform refers to an online infrastructure or ecosystem that enables various interactions, transactions, and collaborations among users.

These platforms leverage digital technologies to connect different groups of users, facilitating the exchange of goods, services, information, or experiences. Digital platforms can take various forms and serve diverse purposes, ranging from social networking and e-commerce to content sharing and collaboration tools. An online platform is a digital environment or infrastructure that enables users to engage in various activities, interactions, or transactions over the internet. Online platforms serve as virtual spaces where users can create, share, consume, or exchange content, goods, services, or information. These platforms leverage internet technologies to connect users regardless of their geographical location, allowing for seamless communication, collaboration, and commerce.

### **LITERATURE REVIEW**

1. Dr. Neeraj Yadav- 2024- The Impact of Digital Learning on Education- International Journal of Multidisciplinary Research in Arts, Science and Technology.
2. Deepika Nambiar- 2020-The impact of online learning during COVID-19: students' and teachers' perspective-The International Journal of Indian Psychology.
3. M. Kamraju\*, J. Krishnaiah, G. Durgesham, Nor Shaba, Syeda Akhtar Begum, Nazneen Fatima, Y. Madhuri- 2024- Exploring the Impact of Online Education on Higher Education- ASEAN Journal of Educational Research and Technology.
4. DR. JAYPRAKASH LAMORIA- 2021- STUDY ON E-LEARNING PLATFORMS- International Journal of Creative Research Thoughts (IJCRT)
5. Dr. Asha S1 and Vyshnavi2, Somali Chatterjee3, Saiyam Sethiya4 and Sham Agrawal5, Mithul.B6, Shurya CB7- 2023- A Study on The Impact of Online Education on the Indian Education System- International Journal of Research Publication and Reviews

### **OBJECTIVES OF THE STUDY**

1. To understand the various digital platform used in education system.
2. To analyze the challenges in using digital platform

## **RESEARCH METHODOLOGY**

This paper is mainly based on secondary data. The secondary data is collected from websites related to digital platforms, e-books, articles, journals, newspapers etc.

### **VARIOUS DIGITAL PLATFORMS USED IN EDUCATION SYSTEM**

There are numerous digital platforms used in education today, catering to different needs and preferences. Following is some of the platforms used in education system.

**1. Learning Management Systems (LMS):** Learning Management Systems (LMS) are software applications designed to manage, deliver, and track educational content and resources. They provide a centralized platform for educators to create, organize, deliver, and assess learning materials and activities.

**2. Video Conferencing and Webinar Tools:** Video conferencing and webinar tools have become essential for remote learning, virtual classrooms, and online meetings.

**3. Content Creation and Sharing Platforms:** Content creation and sharing platforms play a crucial role in education by providing access to a wide range of educational resources, including videos, lectures, presentations, and interactive materials.

**4. Collaboration and Productivity Tools:** Collaboration and productivity tools are essential for educators and students to work together effectively, whether in a traditional classroom setting or in remote learning environments.

**5. Interactive Learning Platforms:** Interactive learning platforms offer engaging and immersive experiences for students to enhance their learning.

**6. Virtual Learning Environments:** Virtual Learning Environments (VLEs) provide online spaces where students and educators can interact, access resources, participate in discussions, and engage in learning activities.

**7. Language Learning Platforms:** Language learning platforms offer resources, courses, and tools to help individuals acquire new languages or improve their language skills.

**8. Coding and Programming Learning Platforms:** Coding and programming learning platforms provide resources, courses, and tools for individuals to learn programming languages, develop coding skills, and pursue careers in software development.

**9. Adaptive Learning Platforms:** Adaptive learning platforms utilize technology to personalize the learning experience for each individual student, catering to their unique needs, preferences, and learning styles.

**10. Virtual Whiteboard Tools:** Virtual whiteboard tools are essential for online collaboration, brainstorming, teaching, and presenting ideas visually.

## **CHALLENGES FACED BY THE EDUCATION SYSTEM WHEN USING DIGITAL PLATFORMS**

**1. Access and Equity:** Not all students have access to the necessary technology or reliable internet connection, leading to a digital divide between those who can fully participate and those who cannot.

**2. Technological Infrastructure:** Schools and institutions may lack the necessary technological infrastructure to support the use of digital platforms effectively, including outdated hardware, insufficient bandwidth, or inadequate technical support.

**3. Digital Literacy:** Some students and educators may lack the digital literacy skills needed to navigate and utilize digital platforms effectively, leading to frustration and reduced engagement.

**4. Security and Privacy Concerns:** Digital platforms may pose security and privacy risks, including the potential for data breaches, identity theft, or unauthorized access to sensitive information.

**5. Quality of Content:** The quality of educational content available on digital platforms can vary widely, with some resources being outdated, inaccurate, or poorly designed, leading to ineffective learning experiences.

**6. Engagement and Motivation:** Keeping students engaged and motivated in a digital learning environment can be challenging, especially when faced with distractions or difficulties in maintaining focus and attention.

**7. Teacher Training and Support:** Educators may require additional training and support to effectively integrate digital platforms into their teaching practices, including how to design engaging online lessons, provide meaningful feedback, and facilitate online discussions.

**8. Digital Divide:** Even among students who have access to technology, there may still be disparities in terms of digital literacy skills, socioeconomic status, or cultural background, exacerbating existing inequalities in education.

**9. Technical Issues and Downtime:** Digital platforms are susceptible to technical issues, such as server outages, software bugs, or compatibility issues, which can disrupt teaching and learning activities and cause frustration for both students and educators.

**10. Assessment and Evaluation:** Assessing student learning and providing feedback in a digital environment can be more challenging than traditional methods, as it may require new approaches to assessment design, integrity monitoring, and data analysis.

## **CONCLUSION**

Digital platforms have fundamentally reshaped the way we interact, with others. With their unparalleled convenience, accessibility, and scalability, digital platforms have become integral to nearly every aspect of our lives. In conclusion, digital platforms offer immense opportunities for innovation, connectivity, and economic growth. However, they also present challenges such as data privacy concerns, digital inequality, and regulatory issues that must be addressed. As we continue to navigate the digital landscape, it's essential to harness the potential of these platforms while ensuring that they serve the greater good and uphold principles of fairness, transparency, and inclusivity. Only then can we fully realize the transformative power of digital platforms for the benefit of education system.

## **REFERENCES**

1. <https://www.intechopen.com/chapters/88771>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9684747/>

- 3.** [https://www.researchgate.net/publication/367608586\\_IMPACT\\_OF\\_DIGITAL\\_INDIA\\_ON\\_EDUCATION\\_SYSTEM](https://www.researchgate.net/publication/367608586_IMPACT_OF_DIGITAL_INDIA_ON_EDUCATION_SYSTEM)
- 4.** [https://www.researchgate.net/publication/378177781\\_The\\_Impact\\_of\\_Digital\\_Learning\\_on\\_Education](https://www.researchgate.net/publication/378177781_The_Impact_of_Digital_Learning_on_Education)
- 5.** <https://link.springer.com/article/10.1007/s10639-022-11214-1>
- 6.** <https://www.gov.scot/publications/literature-review-impact-digital-technology-learning-teaching/pages/4/>
- 7.** [https://www.unicef.org/digitaleducation/media/641/file/UNICEF-Top10ReasonsWhyDigitalLearningSucceedsorFails\\_English.pdf](https://www.unicef.org/digitaleducation/media/641/file/UNICEF-Top10ReasonsWhyDigitalLearningSucceedsorFails_English.pdf)
- 8.** <https://library.oapen.org/handle/20.500.12657/33214>
- 9.** <https://www.phindia.com/Books/ShoweBooks/MTE4/Education>
- 10.** Dr. Neeraj Yadav- 2024- The Impact of Digital Learning on Education- International Journal of Multidisciplinary Research in Arts, Science and Technology.
- 11.** Deepika Nambiar- 2020-The impact of online learning during COVID-19: students' and teachers' perspective-The International Journal of Indian Psychology.
- 12.** M. Kamraju\*, J. Krishnaiah, G. Durgesham, Noor Shaba, Syeda Akhtar Begum, Nazneen Fatima, Y. Madhuri- 2024- Exploring the Impact of Online Education on Higher Education- ASEAN Journal of Educational Research and Technology.
- 13.** DR. JAYPRAKASH LAMORIA- 2021- STUDY ON E-LEARNING PLATFORMS- International Journal of Creative Research Thoughts (IJCRT)
- 14.** Dr. Asha S1 and Vyshnavi2, Somali Chatterjee3, Saiyam Sethiya4 and Shyam Agrawal5, Mithul.B6, Shurya CB7- 2023- A Study on The Impact of Online Education on the Indian Education System- International Journal of Research Publication and Reviews.

## **A STUDY ON CHALLENGES AND OPPORTUNITIES OF START UPS IN INDIA**

**Varshitha R,**

**Srilakshmi P,**

**Dr. Suhasini R,**

BCA, II semester, student, Indus valley degree college, Bengaluru

BCA, II semester, student Indus valley degree college, Bengaluru.

Under the Guidance of Head, Department of Management, Indus Valley Degree College, Bengaluru,

India, positioned as the second most populous nation globally and currently in a phase of development, confronts the challenge of accommodating its vast population within its workforce. The exponential growth in population has consequently led to a scarcity of employment opportunities. In response to this critical issue, India has taken a proactive stance by initiating entrepreneurship programs within the country. On August 15, 2015, Prime Minister Narendra Modi launched the "Start-up India" program, aimed at fostering awareness and enthusiasm for start-ups nationwide. Despite the widespread desire to establish businesses, many prospective entrepreneurs are impeded by resource constraints, including limited access to funds and a shortage of skilled manpower. As a result, a significant portion of recent graduates opts for conventional employment opportunities within established organizations. Nevertheless, a select group of individuals view these challenges as opportunities and embrace entrepreneurship as a means to address them. India actively encourages those with innovative ideas to embark on entrepreneurial journeys through its support for start-ups. Start-ups play a pivotal role in creating job opportunities and driving economic growth. They contribute to employment generation, raise per capita income, and exert a positive influence on the economy as a whole. A primary challenge in commencing a start-up lies in securing funding for innovative products or processes. Nonetheless, numerous young individuals have effectively demonstrated their entrepreneurial talent by successfully establishing their own start-ups. Success in this endeavour hinges on possessing the entrepreneurial skills necessary to identify and seize business opportunities.



## **Objectives of Start-ups in India:**

Start-ups India is the dream project of our worthy Prime Minister Shri. Narendra Damodardas Mode aimed to strengthen the Make in India and Stand-up India project and place the Indian economy as a Developed, self-sufficient, and reliable economy globally. The start-up India scheme was launched in Jan 2016 with the following primary objectives: - (a) An entity shall be considered a Start-up:

- i. Create a pool of Job creators rather than Job Seekers
- ii. Increasing the employment rate in India by creating opportunities for developing and innovating products and services.
- iii. Reduces the regulatory burden on Start-ups, allowing them to focus on their core business and keep compliance costs low.
- iv. Provide equal opportunity to one and all to exploit their expertise and knowledge and convert their dream into reality.
- v. Provide financial support, marketing access and Regulatory support.
- vi. Build a robust ecosystem for promoting innovation and start-ups in the country

## **Review of Literature:**

Goyal Prakash (2011) discussed the improved situation of entrepreneurs compared to previous times. They emphasized the need for government intervention to raise awareness about start-ups. They also stressed the importance of designing start-ups with strong business skills to adapt to changing trends and environmental shifts. Madhavapaty& Rajesh (2018) identified challenges faced by HR Tech startups, including the lack of groundwork for employee adaptation and the difficulty of finding the right product-market fit in a market flooded with products and new technologies. MadhuraWagh (2016) highlighted entrepreneurship as a promising career option in India, attributing its success to government policies, educational initiatives, and training programs. Recommendations were made for liberalizing government policies, enhancing capacity through education and training, and fostering innovation.

The government's "Start-up India, stand up India" initiative was seen as a step toward implementing these recommendations, aimed at building a robust ecosystem to support innovation and start-ups, ultimately leading to significant job creation. Nipun Malhotra (2018) addressed the need for Indian start-ups to focus on addressing community problems such as healthcare, sanitation, education, and transportation to gain success. Indian start-up ranked third globally in terms of attracting capital investment. Solving these issues could have a substantial impact not only within India but also on a global scale, albeit requiring significant investments in technology and products, some of which may be sourced internationally. Y. Sharma conducted a study on women entrepreneurs in India, highlighting the myriad challenges they face, including social barriers, legal hurdles, lack of education, and limited family support. The study emphasized the interplay of push and pulls factors in shaping women entrepreneurs' confidence, determination, and their ability to overcome obstacles while establishing and managing businesses.

#### **Statement of the Problem:**

The above literature points out the fact that studies have been made on Indian start-ups like problems and consequences faced by the Indians on account of starting new business. Most of the studies focused on programmes, procedures etc. Since there are no studies has not been done so far, on exactness of challenges faced by the businessmen and what are opportunities are exist in India. In this article we try to find out issues, challenges and what do the opportunities exist for Indian aspirants. Hence, the study is undertaken to fill the research gap.

#### **Need for The Study:**

Start-ups are created to generate profits and secure local market share. Although small businesses also have the potential to grow into large companies, the driving force behind their growth is national and international expansion through larger teams, supply, manufacturing and distribution channels. But the COVID-19 pandemic has posed unprecedented challenges for the start-up ecosystem of India. The Government of India has joined hands with various stakeholders to offer support to start-ups.

They are trying to combat the pandemic using innovative solutions created by entrepreneurs, they are conducting webinars to offer strategic mentorship to start-ups, we are helping incubators go virtual. This study wants to highlights the challenges faced by start-ups and helps to know about the opportunities in the present situation.

### **Objectives of the Study:**

1. To identify the issues and challenges faced by Indian start-ups.
2. To analyze the opportunities for Indian start-ups

### **Research Methodology:**

The study is mainly based on secondary data and descriptive in nature. Hence, the study has been carried out by referring various journal articles, newspapers and websites.etc

## **CHALLENGES OF STARTUPS**

### **1. Financial Resources:**

Having access to financial resources is crucial for the success of start-ups. There are various avenues through which start-ups can secure funding, including venture capital, grants, loans, and crowdfunding. The need for financial resources typically arises as the business begins to expand. Effective cash management is equally essential for the prosperity of start-ups.

### **2. Revenue generation:**

Numerous start-ups face failure primarily because they struggle to generate sufficient revenue. As these businesses expand, their operations grow, and expenses increase, often outpacing their reduced revenues. This situation compels start-ups to prioritize securing funding, diverting their focus away from the fundamental aspects of their business. Generating revenue presents a significant challenge, not only for initial sustainability but also for subsequent expansion and long-term growth.

### **3. Team members:**

Start-up ventures are typically founded by a group of individuals who trust each other and possess complementary skill sets. In many cases, each team member specializes in a specific area of operation.

It is crucial to form a strong and cohesive team, as failing to do so can significantly increase the risk of the start-up's failure.

#### **4. Supporting Infrastructure:**

Incubators, science, technology business development centres and other types of support mechanisms play a significant role in the lifestyle of start-ups. Lack of such kind of support mechanism lead to failure of start-ups.

#### **5. Regulations:**

Commencing a business entails obtaining various approvals from government departments. Despite noticeable improvements, obtaining company registration in India can still be a challenging process. There are regulations governing labor practices, intellectual property rights, dispute resolution, and other aspects of business operations that must be navigated as well.

#### **6. Lack of mentorship:**

A significant challenge that start-ups encounter is the absence of mentorship and guidance. While they may possess promising ideas, they often lack the industry knowledge and market experience required to navigate the path to success. This deficiency in mentoring and guidance is a major factor contributing to business failures. The determination of founders also plays a pivotal role in the success of start-ups. Founders must exhibit resilience and toughness when faced with adversity. The journey of starting a business is frequently marred by delays, setbacks, and unresolved challenges. An effective entrepreneur must remain steadfast and unwavering, refusing to give up until they achieve success.

#### **7. Creating awareness in markets:**

Start-ups often encounter failure due to their limited understanding of the market dynamics. The market is typically saturated with a myriad of unique products, posing a significant challenge for new entrants to differentiate their offerings.

#### **Lack of Knowledge Regarding Market Demand:**

In India, every state has a unique taste, culture, food habit, language and outfit. So, what is selling in Maharashtra like hot cakes might remain untouched in Tamil Nadu.

A thorough knowledge of region-wise need and a practical market survey is of utmost importance before venturing into the perilous sea of start-ups. Location thus plays a key factor in the success. In this particular case, it's better not to stick to Steve Job's suggestion of not asking the customers, for people don't know what they want until you show them. One should remember, every start-up doesn't produce something as revolutionary as iPods. Marketing strategy comes under this same section

### **Talent:**

In start-ups employment is uncertain due to companies reaching scale and then downsizing for better efficiencies, the industry is saturated with such examples. However, this is a small problem as compared to finding the right skilled talent, and retaining the talent. Skilled talent is hesitant to join start-ups, as they have witnessed in the past mass firing and downsizing. Also, early stage or pre-series-start-ups have lesser pay than their corporate peers. Most start-ups in a bid to outgrow, hire inadequate talent without processes, and finally end up on the losing side.

### **Funding:**

Raising the capital has been a long-drawn challenge for start-ups. Angel investment and seed investment is easier to find, as the amounts are smaller, it has gotten much tougher to go for later stage rounds, as companies burn too fast and do not look at unit economics. Raising funds has become more of a celebration; rather it should be of an entrepreneur making it to the start line of the race. Very limited funding is available in forms of larger cheques in India. In our eco system (India) we patronize the founder, and not the company, and sometimes the founder can be caught up in glamour of funding. Entrepreneurs should set the goals for the next 5 years and should not be obsessed with raising the funds. Apart from this above, there are top 10 challenges which are too faced by startups India scheme.



**Source: An International Peer-Reviewed Open Access Journal of Interdisciplinary Studies**

The Indian start-up ecosystem is facing several challenges despite recording an increase in the number of start-ups to 84,012 in 2022 from 452 in 2016, according to the Economic Survey Report 2022-23. The challenges include funding, revenue generation struggles and lack of access to supportive infrastructure. The regulatory environment and tax structures have also posed hurdles for start-ups. To circumvent these challenges, many Indian companies are setting up bases overseas, especially in countries with favourable legal environments and taxation policies, the report highlighted.

The process of transferring the entire ownership of an Indian company to an overseas entity, including the transfer of all Intellectual Property and data owned by the Indian company, is called 'flipping'. Example: Companies like Google, Whatsapp, Walmart, True Caller, Amazon, Uber and others are providing UPI services.

Source: Economic Survey 2022-23: Indian start-up ecosystem faces several challenges, causing companies to 'flip'

**OPPORTUNITIES OF START UPS**

**1. India's large population:**

India is the second largest population county in the world. The huge population in a country has also resulted in increased consumer spending. Which has improved supply and production.

Start-ups aim to serve a large population by providing products and services. India's population is a very valuable resource for the country. The working age population would exceed the non-working population. Various infrastructure issues and the bottom of the pyramid market would allow more opportunities for the start-ups.

## **2. Insight of working class:**

Traditional occupation paths will give process to Indian start-up scene. Challenging tasks, good remuneration packages would captivate the talented people to start up. Hence it is observed that most of the high-profile people are resigning their jobs to work for start-ups.

## **3. Revolution society:**

India has the highest youth population which is very important source of innovation, talent and future leaders, education, health, infrastructure and the widening disparity between people are few issues that India faces, this provides available opportunity for start-ups to solve many issues.

## **Limitations of the Study**

- Due to time constraint, only secondary data could be collected on the Opportunities and Challenges of Start-ups.
- The scope relies purely of available data on Internet, Newspapers, Journals and researches.

## **Findings and conclusion:**

In short, it can be seen that PM Modi's entire Action Plan offers various opportunities for all types of start-ups in India thereby aiming to give a small push to new innovative businesses and provide them assistance in establishing their business. The Government also aims to minimize regulatory barriers in setting up start-ups despite facing certain major challenges like elimination of unscrupulous entities. Apart from this, there are some other grave concerns relating to the certification of start-ups' "innovation" by Government authorities.

## **CONCLUSION**

India's current economic landscape is experiencing an expansion phase due to the implementation of liberal policies and initiatives aimed at fostering entrepreneurship. Programs such as 'Make in India,' 'Start-up India,' and 'Mudra,' among others, reflect the Indian government's growing commitment to boost GDP growth from the grassroots level. Within the realm of start-ups, numerous challenges exist, spanning from securing financing to managing human resources, and from the initial launch to sustaining growth. However, in a country with a vast population like India, there is an abundance of opportunities for startups across various sectors, including food, retail, hygiene, solar energy, and IT applications. These startups offer solutions to everyday problems at competitive prices. Some of these start-ups have the potential to achieve unicorn status, becoming globally recognized businesses with the capacity to expand into other developing and underserved regions, thereby making a significant impact on the international stage.

### **References:**

- Y. Sharma, –Women entrepreneur in India||, IOSR Journal of Business Management,15(2), 2013.
- 2 M. Goyal and J. Prakash, –Women entrepreneurship in India-problems and prospects||, Zenith International Journal of Multidisciplinary Research,1(5), 2011.
- M.D. Ensley, K. M. Hmieleski and C. L. Pearce, –The importance of vertical and shared leadership with in new venture top management teams: Implication for the performance of the startups||, 2006.
- 4M. Caliendo, S. Kunn, F. Wiener and J. Hogenacker, –Subsidized start-ups out of unemployment: A comparison of regular business start-ups, IZA Discussion Papers||, 8817, 2015.
- 5. S. P. Robbins, Organizational Behaviour, Motivation concepts, (India: Pearson Education, 2009), 194.
- [www.startupindia.gov.in](http://www.startupindia.gov.in)



# **A STUDY ON ROLE OF WOMEN ENTREPRENEURSHIP IN INDIA.**

**Issac Rathnakar NS,**

**DrishyaKP**

Research Scholar, Shushruti Institute of Management Studies  
and Research centre, Bangalore

Assistant professor, Stance's Degree college, Virajajpet, south  
Kodagu

## **ABSTRACT**

In the recent years the impact of women entrepreneurs on the economy has become sustainable by generating huge employment opportunities for young generations of the country, which is significantly leading to economic growth and job creation. Women entrepreneurs are making strides in various sectors including technology, personal care fashion, food and beverage publishers, manufacturers and still exploring new avenues of economic participation. The rise of women in entrepreneurial roles in India have significantly influenced the social and economic demographics of the country. However, despite of facing numerous challenges such as limited access to funding and networks, the struggle to balance family responsibility, limited opportunities for skill development and their ability to withstand and adjust to the challenge and determination are helping women to change their attitude towards business. The women entrepreneurs in India are significantly contributing to build more inclusive and equitable society. This paper focuses on the role of women entrepreneurs in shaping the future and growing economy of India.

**Keywords:** Women Entrepreneurs, Economic growth, Employment opportunities.

## **INTRODUCTION**

Women Entrepreneurs are growing more sustainable, and their contribution towards Indian economy have a significant effect on generating employment opportunities, accelerating development and fostering prosperity.

Women entrepreneurs are empowering 50 Per cent of India's start-up eco system according to the survey made by Bain and company more than 45% of rural women were driven to start-ups provided 35% higher rate of return compared to those led by men. women are great multi-taskers; they have great ability to take up more risk. According to the Ministry of statistics and Program women makeup 8.05 million entrepreneurs. In shark tank season 2, around 40% business is owned by the women. The women entrepreneurs are being the role models for young generation today. women are expected to dominate employment in India in the next few decades, helping our nation expand much more quickly. Even though women entrepreneurs have their own set of difficulties, a supportive atmosphere will make this field extremely profitable and crucial to the development of the country.

### **LITERATURE REVIEW**

In(3), Sharma Y has shown a general study on women entrepreneurs in India. They have highlighted the social norms prevailing even today which is need prioritization and awareness.

In(9) Dr. Sunil Deshpande & Ms. Sunita Sethi, the study identified the encouraging and discouraging factors in an enterprise and to provide the solution for the various problem faced by the women entrepreneurial group.

In(14), Tiwari S and Tiwari A concentrates on the economic development of women. Their Study emphasizes on the challenges and opportunities for Indian women entrepreneurs of Meerut city of Uttar Pradesh, India.

In(14) V Krishnamoorthy and Balasubramanian, The Study identified the important women entrepreneurial motivation factors and its impact on entrepreneurial success.

In(14) FungaingomaMauchi, MargaretMutengezanwa, David Damiyano The study identified that women entrepreneurs face constraints related to access to finance, conflict between work and family responsibilities, networking challenges, lack of education and management skill. sourcing raw materials markets were cited as the least challenges for women entrepreneurs.

In(17)This Study is an attempt to analyze the contribution of women start-ups in economic development, and to know the various factors responsible for encouraging women to become entrepreneurs. This Study also give an insight into opportunity and prospect from start-up India, stand-up India scheme of government to women entrepreneurs and challenges they face.

In(19) Tulika Khare, Women owned business enterprises are playing a more active role in the society and the economy, inspiring academics to focus on this interesting phenomenon. This paper focuses on the problems, issues challenges faced by women entrepreneurs, how to overcome them and to analyze policies of Indian government for and problem faced by them while pursuing their business.

In(20) Muktshabd, RemyaLathabhavan The study has made an attempt to generate awareness and to understand the meaning of what women entrepreneurship is and how important it is or the development of the world rationally, economically and in all spheres.

### **OBJECTIVES OF THE STUDY**

- . To Know the present status of women Entrepreneurs in India
- . To study the role of women entrepreneurs in shaping the future of India
- . To understand the problems faced by the women entrepreneurs in India

### **RESEARCH METHODOLOGY**

This paper is a conceptual survey with exploratory cum descriptive in nature. It is based upon the secondary data analysis. The secondary data is gathered from various Journals, published books, News Paper, website, Conference Proceedings.

### **ROLE OF WOMEN IN SHAPING THE FUTURE OF INDIA**

The landscape of women entrepreneurs in India is witnessing a remarkable change by dynamic women who are breaking stereotypes and setting new benchmarks. In 2003, the contributions of the women entrepreneurs are not only towards the development of economy on job creation but also inspiring countless others to pursue their dreams in the face of formidable challenges.

## **1. The Rising Tide of women Entrepreneurs**

Currently in India about 14% of the total entrepreneurs are women entrepreneurs, equating about 8 million women approximately. This figure includes 10% of all formal enterprises owned by women, with a notable presence in the MSME industry, where women led business account for about 20.37% and employ approximately 23.3% of labor force

## **2. Sectoral Contribution and Leadership**

Women entrepreneurs in India have significantly influenced the social and economic demographics of the country. They are active in sectors such as fashion e-commerce, healthcare, education and technology bringing new ideas and approaches to traditional industries and creating innovative product and services. By 2030, it is predicted that over 30 million women-owned companies could generate between 150-170 million jobs, potentially altering the economic landscape. Currently women contribute 22% of India's GDP, which is below the global average of 45%. Their influence in the business sector is strongly contributing towards the economic development of the country

## **PRESENT STATUS OF WOMEN IN INDIA**

Today entrepreneurship and startups are not limited to only metro cities. Tier two and three cities contribute nearly 50% to the recognized startups in India. A report from India's startup ecosystem Report underscores a remarkable rise of Women-led startups, making a substantial increase over the past five years. A significant shift of 10% startups led by the female entrepreneurs in 2017 to a notable 18% in the recent years. This growth is testament to the increased education among women, improved access to capital, and supportive government schemes. Ventures led by women employ over 27 million individuals, contributing significantly to economic growth and job creation.

## **GOVERNMENT INITIATIVE TO PROMOTE WOMEN ENTREPRENEURS IN INDIA**

In India, where there are over 15.7 million women-owned enterprise and women are driving the start-up eco system, The Indian government has introduced a number of Programs to assist female entrepreneurs in response to these difficulties.

### **List of Government Schemes to Empower Women in India**

#### **Mudra Loan**

The Mudra scheme is a government initiative in India aimed at promoting entrepreneurship and providing financial support to micro and small enterprises. Its available on easy terms and condition, with no collateral required for loans up to 10lakhs. The scheme also offers lower rate of interest rates to the women entrepreneurs to start or to expand the business.

#### **Stand -Up India Scheme**

This scheme aims to promote entrepreneurship among women and other marginalized communities. it provides at least one schedule caste or one schedule tribe borrower and at least one woman per bank branch for the establishment of green field business. Under this scheme women entrepreneurs can get a loan ranging from Rs.10 lakh to 1 crore to start or expand their small business.

#### **Mahila coir Yojana**

This scheme intends to empower women by providing spinning equipment at reduced prices following proper skill development training. under this scheme, women entrepreneurs can get a subsidy of up to 75% of the cost of machinery for coir processing. The scheme also provides a margin money subsidy of up to 25%of the project cost.

#### **Credit Guarantee Fund Trust for Micro and small Enterprises**

The Small Industrial Development Bank of India (SIDBI) and the ministry of MSME introduced the initiative to provide collateral-free financing to the micro and small enterprises.

Both existing and new enterprises are eligible to be covered under the scheme, for which trust named (CGTMSE) has been established to provide credit facilities up to Rs.200 lakh per eligible borrower covered, provided they are extended on the project viability without collateral security of third-party guarantee.

### **Mahila Udyam Nidhi Scheme**

One of the most popular government schemes for women entrepreneurs, the mahila Udyam Nidhi scheme, is offered by Punjab National Bank and Small Industrial Development Bank of India. The Scheme offers women entrepreneurs to set up a new Small-Scale venture by extending loans up to Rs.10lakh to be repaid in 10years.

### **Orient Mahila Vikas Yojana Scheme**

This scheme was launched by Oriental Bank of commerce, Women with an ownership of 51% share capital individually or jointly in a proprietary concern can avail a loan through the OMVY. There is collateral required for loans between Rs.10 Lakhs to Rs.25 Lakhs. The repayment of loan is seven Years. It also provides a concession of 2 per cent on interest rate.

### **Udyogini Scheme**

The women Development Corporation has implemented the Udyogini scheme under the Government of India. This scheme motivates and promotes Women entrepreneurs among the poor by providing financial support to women. This scheme majorly supports and helps illiterate women living in rural and backward areas.

## **PROBLEMS FACED BY WOMEN ENTREPRENERUS IN INDIA**

**Some of the major problems faced by women entrepreneurs are as follows**

### **1. Lack of access to Funding**

Finance is considered as the life blood for any business it's like a fuel to an engine, be it big or a small business concern. However, women entrepreneurs face the problem in two faces. Firstly, women do not generally own property in their names to use them as a collateral for obtaining funds from the external source. Thus, their access to external source of fund is very limited.

Secondly most of the banks do not fund the women entrepreneurs thinking that they are less credit-worthy and they believe that women entrepreneurs can leave the business anytime. Thus, women enterprises fail due to scarcity of fund.

## **2. Gender bias**

Even though society has evolved and everyone claims that men and women are equal, gender bias still exist. According to the recent report most of the business which are owned by the women in the country are in low-revenue sectors, while men control the more profitable sectors like construction, manufacturing. whereas women limit themselves to areas such as education, apparel and beauty care. It limits them to experience their capabilities to a significant extent.

## **3. Balancing work and family life**

Work life balance is something which is heard quite frequently nowadays. even after women being career -oriented, they have lot of responsibility towards their homes. For women to balance family and work is more challenging and things seems to be difficult when the business is growing and they really have to give much of their time and dedication towards their work. as they have to work for along hour and make sacrifices in their personal life.

## **4. Stiff Competition**

The business world is increasingly becoming very competitive, and the commercial space is still a male -dominated sector even though the women are trying to overcome women entrepreneurs often face stiff competition from their male counterparts which make it more difficult for them to leave a mark.

## **5. Low-Risk Bearing Ability**

To run a successful business the entrepreneurs must be ready to face inherent risk there is no business area which is free from risk, Women often do not have freedom to make financial decisions. They lack confidence in their decision which make them risk-averse. This is gradually changing with each passing generation women are taking charge of their finances and mitigating the risks.

## **6. Economic Challenges**

Indian finance to have massive gender gaps. Women entrepreneurs in India commonly face economic challenges due to investors prejudice and other factor. Of all the companies receiving business funding only a small portion comprises for female entrepreneur. Many investors and venture capital firms are reluctant to invest their money in women -led business. Economic challenges come up as a major problem when applying for private financing or collateral loans.

## **7. Work -life Integration**

According to the recent survey reported by National family health survey, only 32% of Indian married women are employed between the age group of 15 and 49. In most of the Indian home women's are responsible of taking care of the family and children. society expects these roles as a women's obligation that they must play adequately. To be a successful entrepreneur it's very important to have a balanced work-life integration to have control towards professional as well as family responsibilities. when a woman starts a business, their priorities and schedules change. Household work and family commitments may disturb their work -life balance, which is challenging for them to run a business.

## **8. Networking and mentorship**

One of the basic problems faced by the women entrepreneur is Limited access to networking. Even today women feel unsafe travelling alone or staying in the hotels while they are on business tour. Most of the Indian hotels still do not accept to provide the stay for a single woman unless a man is accompanied with them. They also have difficulty in finding women mentors and coaches who can provide them meaningful feedback.

## **Conclusion**

India is witnessing a rise of women entrepreneurial roles which is gradually leading to business and economic growth in the country. Women entrepreneurs are actively contributing to societal evolution by creating employment opportunities, instigating demographic transformation, and serving as inspirational for the upcoming generation.



Despite of challenges risk and uncertainties, many women have succeeded in building thriving businesses, setting incredible examples of innovation, Leadership and resilience. Government should foster an environment that supports and encourage women entrepreneurs by providing them skill development program, education and network, access to resources. India can harness the untapped potential of its female entrepreneurs, driving inclusive growth and prosperity for all.

## **References**

<https://www.herofincrop.com/blog/challenges-faced-by-women-entrepreneurs>

<https://www.linkedin.com/pulse/women/-entpreneurs-India-breaking-barriers-facing-zqtvf>

<https://www.bankofbaroda.in/banking-mantra/investment/articles/government-schemes-for-women-entrepreneurs>

<https://www.bajajfinservmarkets.in/loans/business-loans/government-Schemes-for-women-entrepreneur.html>

<https://m.economictimes.com/small-biz/entpreneurship/the-rise-of-women-in-entrepreneurial-roles-in-india/articlehow/108317138>

<https://www.researchgate.net/publication/342094983-A-Study-on-women-entrepreneurial-in-India>

# **CHALLENGES AND OPPORTUNITIES IN BLOCKCHAIN: A REVIEW**

**Ranjitha S**

Student, Department of BCA, Indus Valley Degree College,  
Bangalore

**Abstract:** Blockchain has numerous benefits such as decentralisation, persistency, anonymity and audit ability. There is a wide spectrum of blockchain applications ranging from crypto currency, financial services, risk management, internet of things (IoT) to public and social services. Although a number of studies focus on using the blockchain technology in various application aspects, there is no comprehensive survey on the blockchain technology in both technological and application perspectives. To fill this gap, we conduct a comprehensive survey on the blockchain technology. In particular, this paper gives the blockchain taxonomy, introduces typical blockchain consensus algorithms, reviews blockchain applications and discusses technical challenges as well as recent advances in tackling the challenges. Moreover, this paper also points out the future directions in the blockchain technology.

**Keywords:** Blockchain; IoT; internet of things; consensus algorithms; crypto currency; smart contract.

## **1. Introduction**

Recently, cryptocurrency has attracted extensive attentions from both industry and academia. Bitcoin that is often called the first cryptocurrency has enjoyed a huge success with the capital market reaching 10 billion dollars in 2016 (coin desk, 2016). The blockchain is the core mechanism for the Bitcoin. Blockchain could be regarded as a public ledger, in which all committed transactions are stored in a chain of blocks. This chain continuously grows when new blocks are appended to it. The blockchain technology has the key characteristics, such as decentralisation, persistency, anonymity and audit ability. Blockchain can work in a decentralised environment, which is enabled by integrating several core technologies such as cryptographic hash, digital signature (based on asymmetric cryptography) and distributed consensus mechanism. With blockchain technology, a transaction can take place in a decentralised fashion.

As a result, blockchain can greatly save the cost and improve the efficiency.

## **2. Blockchain Architecture**

The blockchain is a sequence of blocks, which holds a complete list of transaction records like conventional public ledger. Each block points to the immediately previous block via a reference that is essentially a hash value of the previous block called parent block.

### ➤ **Block**

A block consists of the block header and the block. In particular, the block header includes:

- Block version: indicates which set of block validation rules to follow.
- Parent block hash: a 256-bit hash value that points to the previous block.
- Merkle tree root hash: the hash value of all the transactions in the block.

The block body is composed of a transaction counter and transactions. The maximum number of transactions that a block can contain depends on the block size and the size of each transaction.

### ➤ **Digital Signature**

Each user owns a pair of private key and public key. The private key is used to sign the transactions. The digital signed transactions are spread throughout the whole network and then are accessed by public keys, which are visible to everyone in the network. The typical digital signature is involved with two phases: the signing phase and the verification phase.

### ➤ **Key characteristics of blockchain**

- Decentralization: In conventional centralized transaction systems, each transaction needs to be validated through the central trusted agency (e.g., the central bank) inevitably resulting the cost and the performance bottlenecks at the central servers.

- **Persistency:** Since each of the transactions spreading across the network needs to be confirmed and recorded in blocks distributed in the whole network, it is nearly impossible to tamper. Additionally, each broadcasted block would be validated by other nodes and transactions would be checked.
- **Anonymity:** Each user can interact with the blockchain network with a generated address. Further, a user could generate many addresses to avoid identity exposure. There is no longer any central party keeping users' private information. This mechanism preserves a certain amount of privacy on the transactions included in the blockchain.

### ➤ **Taxonomy of blockchain systems**

Current blockchain systems can be roughly categorized into three types: public blockchain, private blockchain and consortium blocks.

- **Consensus determination:** In public blockchain, each node could take part in the consensus process. And only a selected set of nodes are responsible for validating the block in consortium blockchain. As for private chain, it is fully controlled by one organization who could determine the final consensus.
- **Read permission:** Transactions in a public blockchain are visible to the public while the read permission depends on a private blockchain or a consortium blockchain. The consortium or the organization could decide whether the stored information is public or restricted.
- **Immutability:** Since transactions are stored in different nodes in the distributed network, so it is nearly impossible to tamper the public blockchain. However, if the majority of the consortium or the dominant organization wants to tamper the blockchain, the consortium blockchain or private blockchain could be reversed or tampered.
- **Efficiency:** It takes plenty of time to propagate transactions and blocks as there are a large number of nodes on public blockchain network. As a result, transaction throughput is limited and the latency is high. With fewer validators, consortium blockchain and private blockchain could be more efficient.

### **3. Consensus algorithms**

In blockchain, how to reach consensus among the untrustworthy nodes is a transformation of the Byzantine Generals (BG) Problem (Lamport et al., 1982). In BG problem, a group of generals who command a portion of Byzantine army circle the city. The attack would fail if only part of the generals attack the city. Generals need to communicate to reach an agreement on whether attack or not. However, there might be traitors in generals. The traitor could send different decisions to different generals. This is a trust less environment.

#### **➤ Approaches to consensus**

Proof of work (PoW) is a consensus strategy used in Bitcoin network (Nakamoto, 2008). POW requires a complicated computational process in the authentication. In POW, each node of the network is calculating a hash value of the constantly changing block header. The consensus requires that the calculated value must be equal to or smaller than a certain given value. Transactions in the new block would be validated in case of frauds.

Proof of stake (Pops) is an energy-saving alternative to POW. Instead of demanding users to find a nonce in an unlimited space, POS requires people to prove the ownership of the amount of currency because it is believed that people with more currencies would be less likely to attack the network. Since the selection based on account balance is quite unfair because the single richest person is bound to be dominant in the network.

### **4. Applications of blockchain**

- ❖ Finance
- ❖ Enterprise transformation.
- ❖ P2P financial market
- ❖ Risk management

#### **• Finance**

Financial services: The emergency of blockchain systems such as Bitcoin (Nakamoto, 2008) and (hyperledger, 2015) has brought a huge impact on traditional financial and business services.

Peters et al. (Peters and Panayi, 2015) discussed that blockchain has the potential to disrupt the world of banking. Blockchain technology could be applied to many areas including clearing and settlement of financial assets etc.

- **Enterprise transformation:** In addition to the evolution of financial and business services, blockchain can help traditional organizations to complete the enterprise transformation smoothly. Consider an example of postal operators (POs). Since traditional postal operators (POs) act as a simple intermediary between merchants and customers, blockchain and cryptocurrency technology can help POs to extend their simple roles with the provision of new financial and un-financial services. In Jag et al. (2016), Jag and Bach explored opportunities of arising blockchain technology for POs and claimed that each PO could issue their own post coin which is a kind of collared coin of Bit coin.

- **P2P financial market:** Blockchain could also help build a P2P financial market in a secure and reliable way. Noyes explored ways of combining peer-to-peer 364 Z. Blockchain-based MPC market allows offloading computational tasks onto a network of anonymous peer-processors.

- **Risk management:** Risk management framework plays a significant role in financial technology (FinTech) and now it can be combined with blockchain to perform better. Pilkington (Pilkington, 2016) provided a novel risk-management framework, in which blockchain technology is used to analyze investment risk in the Luxembourgish scenario. Investors who nowadays hold securities through chains of custodians tend to face the risk of any of these failings.

#### ➤ **Public and social services**

Blockchain can also be widely used in public and social services.

- **Land registration.** One of the typical blockchain applications in public services is the land registration (NRI, 2015), in which the land information such as the physical status and related rights can be registered and publicized on blockchains.

- **Education.** Blockchain is originally devised to enable currency transactions to be carried out in trust less environment.

However, if we regard the learning and teaching process as the currency, blockchain technology can potentially be applied to the online educational market. In Devine (2015), blockchain learning was proposed. In blockchain learning, blocks could be packed and placed into blockchain by teachers and the learning achievements could be thought as coins.

- Free-speech right. Moreover, blockchain can be used to secure internet infrastructure such as DNS and identities. For example, Name coin (name coin, 2014) is an experimental open-source technology that improves decentralization, security, censorship resistance, privacy, and speed. It protects free-speech rights online by making the web more resistant to censorship.

### ➤ **Reputation system**

Reputation is an important measure on how much the community trusts you. The greater your reputation, the more trustworthy you are regarded by others. The reputation of a person can be evaluated on his or her previous transactions and interactions with the community. There is a rising number of cases of personal reputation records falsification. For example, in e-commerce, many service-providers enrol a huge number of fake customers to achieve a high reputation. Blockchain can potentially solve this problem.

### ➤ **Security and privacy**

- Security enhancement. We have seen the proliferation of various mobile devices and various mobile services, which are also exhibiting their vulnerability to malicious nodes. There are a number of anti-malware filters proposed to detect the suspected files through pattern matching schemes, which a central server to store and update the virus patterns. However, these centralised countermeasures are also vulnerable to malicious attackers. Blockchain can potentially help to improve the security of distributed networks. In particular, Charles (Noyes, 2016a) proposed a novel anti-malware environment named BitAV, in which users can distribute the virus patterns on blockchain. Blockchain technologies can also be used to improve the reliability of security infrastructure. For example, conventional public key infrastructures (PKIs) are often susceptible to single point of failure due to the hardware and software flaws or malicious attacks.

As shown in Axon (2015), blockchain can be used to construct a privacy-aware PKI while simultaneously improving the reliability of conventional PKIs.

- Privacy protection. In addition to the increasing risk of the exposure of our private data to malwares, various mobile services and social network providers are collecting our sensitive data. propose a decentralised personal data management system that ensures the user ownership of their data. This system is implemented on the blockchain. The system can protect the data against these privacy issues:

- data ownership
- data transparency and audit ability
- fine-grained access control.

## **5. Challenges and recent advances**

As an emerging technology, blockchain is facing multiple challenges and problems. We summarise three typical challenges: scalability, privacy leakage and selfish mining.

### **➤ Scalability**

With the amount of transactions increasing day by day, the blockchain becomes heavy. Currently, Bitcoin blockchain has exceeded 100 GB storage. All transactions have to be stored for validating the transaction. However, large block size would slow down the propagation speed and lead to blockchain branches. So scalability problem is quite tough. There are a number of efforts proposed to address the scalability problem of the blockchain, which could be categorized into two types:

### **➤ Privacy leakage**

The blockchain is believed to be very safe as users only make transactions with generated addresses rather than real identity. Users also could generate many addresses in case of information leakage. Multiple methods have been proposed to improve anonymity of blockchain, which could be roughly categorized into two types:

- In blockchain, users addresses are pseudonymous. But it is still possible to link addresses to user real identity as many users make transactions with the same address frequently.



Mixing service is a kind of service which provides anonymity by transferring funds from multiple input addresses to multiple output addresses. Anonymous, a zero-knowledge proof is used. Miners do not have to validate a transaction with digital signature but to validate coins belong to a list of valid coins. Payment's origin is unlinked from transactions to prevent transaction graph analyses.

➤ **Selfish mining**

The blockchain is susceptible to attacks of colluding selfish miners. Generally, it is convinced that nodes with over 51% computing power could reverse the blockchain and reverse the happened transaction. In selfish mining strategy, selfish miners keep their mined blocks without broadcasting and the private branch would be revealed to the public only if some requirements are satisfied. As the private branch is longer than the current public chain, it would be admitted by all miners. Before the private blockchain publication, honest miners are wasting their resources on a useless branch while selfish miners are mining their private chain without competitors.

➤ **Possible future directions**

The blockchain has shown its potential in industry and academia. We discuss possible future directions with respect to five areas: blockchain testing, stop the tendency to centralization, big data analytics, smart contract and artificial intelligence.

➤ **Blockchain testing**

Recently different kinds of blockchains appear and over 700 crypto currencies are listed in coin desk (2017) up to now. However, some developers might falsify their block chain performance to attract investors driven by the huge profit.

Besides, when users want to combine block chain into business, they have to know which block chain fits their requirements. So block chain testing mechanism needs to be in place to test different block chains. Block chain testing could be separated into two phases: standardization phase and testing phase.

### ➤ **Stop the tendency to centralization**

Blockchain is designed as a decentralized system. However, there is a trend that miners are centralized in the mining pool. Up to now, the top 5 mining pools together own larger than 51% of the total hash power in the Bitcoin network (Bitcoin Worldwide, n.d.). Apart from that, selfish mining strategy (Eyal and Sirer, 2014) showed that pools with over 25% of total computing power could get more revenue than a fair share. Rational miners would be attracted into the selfish pool and finally, the pool could easily exceed 51% of the total power. As the blockchain is not intended to serve a few organizations, some methods should be proposed to solve this problem.

### ➤ **Big data analytics**

Blockchain could be well combined with big data. Here we roughly categorized the combination into two types: data management and data analytics. As for data management, blockchain could be used to store important data as it is distributed and secure. Blockchain could also ensure the data is original. For example, if blockchain is used to store patients' health information, the information could not be tampered and it is hard to steal that private information. When it comes to data analytics, transactions on blockchain could be used for big data analytics.

### ➤ **Artificial intelligence**

Recent developments in blockchain technology are creating new opportunities for artificial intelligence (AI) applications (Omohundro, 2014). AI technologies could help solve many blockchain challenges. For instance, there is always an oracle who is responsible for determining whether the contract condition is satisfied. Generally, this oracle is a trusted third party. AI technique may help build an intelligent oracle. It is not controlled by any party, it just learns from the outside and trains itself. In that way, there would be no arguments in the smart contract and the smart contract can become smarter. On the other hand, AI is penetrating into our lives now. Blockchain and smart contract could help to restrict misbehaviors done by AI products. For instance, laws written in smart contract could help to restrict misbehaviors done by driverless cars.

## **6. Conclusion**

The blockchain is highly appraised and endorsed for its decentralized infrastructure and peer-to-peer nature. However, many researches about the block chain are shielded by Bit coin. But block chain could be applied to a variety of fields far beyond Bit coin. Block chain has shown its potential for transforming the traditional industry with its key characteristics: decentralization, persistency, anonymity and audit ability. In this paper, we present a comprehensive survey on the blockchain. We first give an overview of the block chain technologies including block chain architecture and key characteristics of the block chain. We then discuss the typical consensus algorithms used in the block chain. We analyze and compare these protocols in different respects. We also investigate typical block chain applications.

## **References**

- 1.Akins, B.W., Chapman, J.L. and Gordon, J.M. (2013) A Whole New World: Income Tax Considerations of the Bitcoin Economy.
- 2.antshares (2016) Antshares Digital Assets for Everyone, <https://www.antshares.org>. Atzori, L., Iera, A. and Morabito, G. (2010) 'The internet of things: a survey', Computer Networks, Vol. 54, No. 15, pp.2787–2805.
- 3.Billah, S. (2015) One Weird Trick to Stop Selfish Miners: Fresh Bitcoins, A Solution for the Honest Miner.

# **NANOTECHNOLOGY-A REVOLUTION**

**Kishan. A.V**

**Omkar.B**

Student, Department of BCA, Indus Valley Degree College,  
Bangalore,

Student, Department of B.COM, Indus Valley Degree College,  
Bangalore,

## **ABSTRACT**

Nanotechnology is currently the most demanding technology that affects nearly all aspect of our day-to-day lives. Without realising it, we utilise things made possible by nanotechnology on a daily basis. Nanoscience is a branch of nanotechnology, it the study of science, engineering, and technology at the nanoscale. Its main focus is on comprehending and managing matter at the nanoscale. The sizes range from around one to one hundredth nanometres. The use of nanotechnology is greatly advancing, if not revolutionising in various fields. Among the industries are information technology, homeland security, healthcare, energy, and transportation and numerous others like environmental science and so on. The primary concern of this paper is to explore Nanotechnology and its applications.

## **KEYWORDS**

Nanotechnology, information technology, healthcare, transportations.

## **INTRODUCTION**

Nanotechnology is the science of designing, manufacturing, and using structures and devices with one or more dimensions of one hundred million thousandths (100 nanometres) or less. At this size, materials begin to exhibit unique characteristics that influence their physical, chemical, and biological behaviour. Nanotechnology has the potential to have a significant impact on society. In addition, nanotechnology can also be used to reduce environmental pollution.

## **NANOTECHNOLOGY IN IT**

Nanotechnology has greatly contributed to major advances in information technology, resulting in faster, smaller, and more portable systems that can manage and store ever-increasing amounts of data. Nanotechnology now supports the production of modern computer chips and the development of new chip technologies for the post-silicon era, the development of new materials for many nano-electronic and nanophotonic applications, new nanobioelectronic sensors and countless other applications.

## **NANOTECHNOLOGY IN MEDICINE**

The discovery of nanotechnology and nanomedicine is very broad and far-reaching. Nanomedicine has brought about amazing changes, taking medicine to a new level with significant health benefits. The great potential of nanotechnology in health needs to be explored. In medicine, great research continues into the best methods and techniques, including nephrology, genetics for the treatment of heart disease, and cancer therapy. Traditional treatments have made great strides, and nanoparticles and nanotechnology have improved in quality, showing promising results in 20-21. The nanobots target specific cancer cells and send data back to a smartphone to ensure the patient receives the right treatment. Nanotechnology offers the potential for in-vitro diagnostics by replacing existing methods with inexpensive and easy-to-use methods. Nanoparticles can act as molecular imaging agents in a device that can detect cancer-related genetic alterations and tumour functional characteristics. In addition, nanotechnology-based coatings often contain nanomaterials such as titanium dioxide, silicon dioxide, carbon black, iron oxide, zinc oxide, and silver, depending on the job required. The tools and methods improve the evaluation, safety, and efficiency of the physical properties of nanomaterials and nano surfaces incorporated into medical device engineering. Scientists play an important role in product development, including new materials, sensors and energy storage systems.

## **NANOTECHNOLOGY IN TRANSPORTION VEHICLES**

Nanotechnology is gaining more attention and is being used in parts of transportation vehicles.

Nanomaterials can improve the safety and durability of transportation vehicles thanks to their unique physical and chemical properties. It describes nanotechnology and how it can be used to improve the comfort, safety and speed of transportation. New developments and applications of nanotechnology in the transportation industry, including nano-coatings, nano-filters, carbon black for tires and nanoparticles to improve engine performance and reduce fuel consumption. It also highlights key challenges in a range of applications, such as environmental, health and safety issues. Many nanomaterials have shown excellent performance and have been widely studied, making them candidates for environmentally friendly transport applications.

## **NANOTECHNOLOGY AND ITS APPLICATIONS**

### **1.) ENERGY APPLICATIONS**

Nanotechnology is finding application in customary energy sources and is significantly improving elective energy ways to deal with assistance meet the world's rising energy requests. Numerous researchers are investigating ways of growing perfect, reasonable, and sustainable power sources, alongside means to diminish energy utilization and decrease poisonous loads on the climate. Nanotechnology is working on the productivity of fuel creation from crude petrol materials through better catalysis. It is likewise empowering diminished fuel utilization in vehicles and power plants through higher-effectiveness ignition and diminished grating.

Nanotechnology is additionally being applied to oil and gas extraction through, for instance, the utilization of nanotechnology-empowered gas lift valves in seaward activities or the utilization of nanoparticles to recognize minute down-well oil pipeline breaks. Scientists are creating wires containing carbon nanotubes that will have a lot of lower opposition than the high-strain wires at present utilized in the electric framework, subsequently decreasing transmission power misfortune. Nanotechnology can be integrated into sun powered chargers to change daylight over completely to power all the more proficiently, encouraging reasonable sun-oriented power from now on.

## **2.) ENVIRONMENTAL REMEDIATION**

Notwithstanding the manners in which that nanotechnology can assist with further developing energy effectiveness there are additionally numerous ways that it can help recognize and tidy up ecological pollutants. Nanotechnology could assist with addressing the requirement for reasonable, clean drinking water through fast, minimal expense discovery and treatment of debasements in water. Engineers have fostered a dainty film layer with nanopores for energy-efficient desalination. This molybdenum disulphide (MoS<sub>2</sub>) layer sifted two to multiple times more water than momentum traditional channels. Nanoparticles are being created to clean modern water contaminations in ground water through substance responses that render the poisons innocuous. This interaction would cost not as much as techniques that require siphoning the water out of the ground for treatment. Specialists have fostered a nano-texture "paper towel" woven from little wires of potassium manganese oxide that can retain multiple times its weight in oil for cleanup applications. Analysts have likewise positioned attractive water-repellent nanoparticles in oil slicks and utilized magnets to eliminate the oil from the water precisely. Numerous plane lodge and different kinds of air channels are nanotechnology-based channels that permit "mechanical filtration," in which the fibre material makes nanoscale pores that trap particles bigger than the size of the pores. The channels likewise may contain charcoal layers that eliminate smells.

## **3.) EVERYDAY MATERIALS AND PROCESSES**

Nanoscale additives in the surface treatment of fabrics can reduce the energy for personal defence or help prevent wrinkles, stains and bacterial growth. Nanoscale transparent films on glasses, computer and camera screens, windows and other surfaces can provide water and debris repellent, anti-reflective, self-cleaning, anti-ultraviolet or infrared, anti-fog, anti-bacterial, anti-scratch or electric shock. Nanoscale materials are beginning to evolve into durable, washable "smart fabrics" with flexible nanoscale sensors and electronics capable of monitoring health, capturing solar energy, and harvesting force through movement. Electric cars, trucks, planes, ships and spacecraft can save a lot of fuel.

Nanoscale additives are used in polymer composites in baseball bats, tennis rackets, bicycles, motorcycle helmets, auto parts, luggage, and electronic equipment buildings to make them lighter, stronger, longer, and more durable. Carbon nanotube sheets are currently being developed for use in future aircraft. For example, the combination of light weight and portability makes it ideal for applications such as electrical insulation and thermal management.

ADVANTAGES	DISADVANTAGES
Nanotechnology in computer and electronics	Health Problems
Coating made of Nano-Particles	Decreased in Employment
It is Feasible to Cure Illnesses to a Large Extent	Costly
Nanotechnology has Greatly Enhanced Medical Fieldwork	Weapons that are Dangerous and Easily Accessible

## CONCLUSION

As A Part of Our Research Paper “Nanotechnology A - Revolution”, We Have Presented a Briefly Explored Concepts of Nanotechnology, The Applications of Nanotechnology. We Have Given on How the Nanotechnology Can Help Improve the Different Sectors. Advantages And Disadvantages of it.

## REFERENCES

<https://www.javatpoint.com/advantages-and-disadvantages-of-nanotechnology>

<https://www.sciencedirect.com/science/article/pii/S2773064622000068>

<https://education.nationalgeographic.org/resource/nanotechnology/>

<https://www.nano.gov/about-nanotechnology/applications-nanotechnology>

<https://www.sciencedirect.com/science/article/pii/S2414644723000337#bib0025>

<https://trynano.org/transportation-applications/>



# **ANOVERVIEW OF MACHIN ELEARNING TECHNOLOGIES INEDUCATION SYSTEM**

**Jyothsna. K**

Assistant Professor, Department of BCA, Indus Valley Degree  
College, KR Puram, Bangalore

**Abstract:** Education is first and foremost rights of every human being. It is the act of learning things around us. It helps us to easily understand and deal with any problem and makes balance throughout the whole life in every aspect. Education has undergone many changes over the past 2 decades at all levels. Many of the changes have undergone due to the increasing number of technology advancements in the ways teachers educate and the ways of that student learn. One of the landmark events in the course of evolution of technology has been the advent of artificial intelligence and machine learning. These two upgraded technologies have touched every part of human life, whether it is business, banking, communication, travel, health or education. It's true that teachers and educators are irreplaceable. But technology will cause many changes to a teacher's job and to educational best practices. This review involves the general concept of machine learning in education.

**Keywords:** Artificial Intelligence, Machine Learning, Digitalization, Supervised Learning, Unsupervised Learning

## **1. Introduction:**

Currently, technology is everywhere including the education sector, where it has proven to be of great importance for realizing the learning outcomes for students. Education is moving away from traditional rows of students looking at the same textbook while a teacher lectures from the front of the room. Today's classrooms are not simply evolving to use more technology and digital resources; they are also investing in machine learning. Machine learning has become a new frontier for education. It can potentially redefine not only how education is delivered, but also foster quality learning on the students' part. Machine learning promises to deliver custom in-class teaching by providing real-time feedback based on individual student behavior and other factors. This improves the chances of better learning.

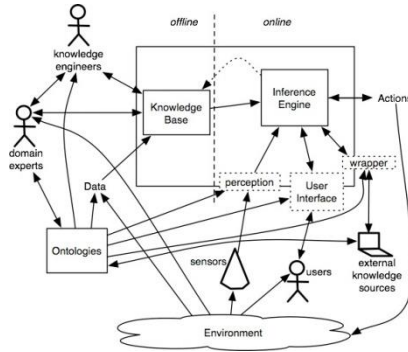
Machine learning also plays an important role in assessments or evaluations by removing biases. Being one of the strongest newer technologies, machine learning plays the main rules in artificial intelligent and human interaction. Consequently, machine learning helps computers to find hidden insights without Being programmed to do so. Moreover, machine learning works as a good predictive.

### **I. Related Work:**

Tom M. Mitchell [1] in their book “Machine Learning &quot; described the field of machine learning, the study of algorithms that allow computer programs to automatically improve through experience and that automatically infer general laws from specific data. Bethel Tall Mafia [2] in their research paper “Machine learning in education technology” described the basic perspectives of machine learning in education and concluded that the future learning environments are likely to be highly personalized, with the ability to help learners realize their utmost potential in the most fulfilling way. Ilkka Tuomi [3] in their report describes &quot; The Impact of Artificial Intelligence on Learning, Teaching, and Education: Policies for the Future &quot;. The ambition of this review is to define the benefits and limitations of machine learning in education. Havan Agrawal, Harshil Mavani [4] they purposed a model to predict the performance of students in an academic organization using machine learning algorithm called Neural Networks. The review is also explores the application of machine learning in education.

### **II. Machine Learning:**

Machine Learning is a core sub-area of artificial intelligence which promotes the reality just to be able to give machines the access to data for more ease in human work and just to learn them for themselves. Learning [5] is a key hallmark of artificial intelligence. It is an ability of the machines to take real – time data and feedback and improves performance over a time and involved the development of self-learning algorithms to gain knowledge from that data in order to make predictions. Machine learning is one of the most important technical approaches to AI and the basis of many recent advances and commercial applications of AI. Modern machine learning is a statistical process that helps to define the output and future use of data [6].

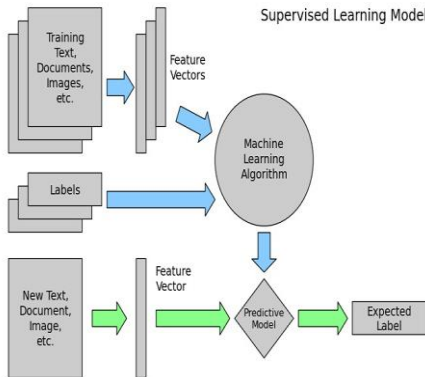


**Fig. a) Machine Learning Mechanism**

**There are following types of learning:**

1. Supervised learning.
2. Unsupervised/predictive learning.
3. Reinforcement learning.

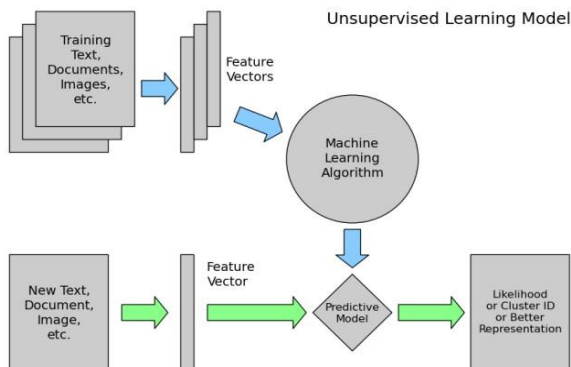
3.1. Supervised Learning: In this process, if the researcher tells the machine what the correct answer is for a particular input. It is most common technique for training neural networks [7] and other machine learning architectures. The accuracy of prediction by the computer during training is also analyzed. It involves learning a mapping from a set of inputs to a target variable. The target is discrete and real value. It is solved by decision trees, naive trees [8], boosting and multi-layer [9] neural networks.



**Fig.b) Supervised learning model**

## 1.2 Unsupervised/predictive learning:

In this method, no labels are given to learning algorithm, leaving it on its own to find a structure in its input. It can be a goal in itself i.e. hidden pattern [10] and data. Researchers don't know how to do at this moment, research is still going on. No target variables are provided. It is solved by grouping into K groups. Unsupervised learning is mostly applied on transactional data. It is used in more complex tasks. It uses another approach of iteration known as deep learning to arrive at some conclusions.



**Fig. c) Unsupervised learning model**

**Reinforcement Learning:** In this algorithm, The AI, Agent [10] decides how to behave in order to get most of the work is done. A computer interacts with dynamic environment in which is must perform a certain task to win against opponent. The program gives feedback in terms of punishment or reward. The machine itself selects actions to be performed for better output. The main goal in reinforcement learning is to find the best possible policy.

### III. Application of machine learning in education:

Artificial intelligence and Machine Learning can significantly impact the future of our education. With machine learning, we are moving away from the one-size-fits-all methodology. It is an effective teaching tool because of its ability to adapt and offer customized curricula. Machine Learning enabled tools help assess an individual's current level of understanding, identify gaps in the learning's of the student and provide real-time solutions.

The technology can also identify areas where teachers are outnumbered by students and create optimized learning programs that impact the largest number of students. Here are some advantages of ML that shows it become a game changer in the field of education

**4.1. Predict Student Performance:** A major benefit of machine learning is its ability to predict student performance. By “learning” about each student, the technology can identify weaknesses and suggests meaningful learning tools for each student, such as additional practice tests.

**4.2. Grade Students Fairly:** Machine learning can also grade students fairly by removing human biases. While grading is now already being completed by AI for multiple choice exams, we are beginning to see machine learning also starting to assess writing with tools like Grammarly.

**4.3. Organize Content Effectively:** Through identifying weaknesses, machine learning can organize content more effectively. For example, as students learn one skill, they move on to the next skill

**4.4. Continually building upon knowledge.** Once the software analyzes students’ performance, it might suggest a better way to learn new material. It starts with the analysis of the existing knowledge of the curriculum. And once weak spots are identified, students receive suggestions regarding materials and further learning methodology.

**4.5. Career Path Prediction:** Machine learning applications for career path prediction are able to track student interest, aptitudes and dislikes. It analyzes student behaviour and reactions. Based on the analysis, it can fairly predict interest areas in which the student can excel.

**4.6. Group Students and Teachers:** Another way machine learning will improve education is by grouping students and teachers according to their needs and availability.

### **Benefits and Limitations of Machine Learning:**

It’s hard to overlook personalized education as the most prominent advantage [12] of machine learning. Students can work on material that suits their unique capabilities and advance to more difficult content when they are ready.

Not only do students benefit from this unique approach to learning, but teachers can save a great deal of time. They no longer have to create lesson plans that cater to students of all abilities and grade levels. The advantage of machine learning also shows up in the automatic grading system. This presents the opportunity for completely unbiased grading that can't be influenced by the teacher's relationship with any student. It saves teachers time and gives a more realistic overview of a child's achievements in school. Machine learning can also help educators to look toward the future. By analyzing their data in the system, patterns will quickly emerge that show where the student's primary weakness is and if they will need more help. If the issue is academic, the computers can provide a form of virtual tutoring. However, it can also indicate if a student is at risk of dropping out or receiving greater disciplinary action.

The major downside to machine learning is that we are taking personal interaction away from the students. This can dramatically impact their ability to make friends and present themselves well in the workplace over the years ahead. Social skills still need to be emphasized even while using machine learning. As helpful as it can be to allow the computer to grade student papers, it isn't always going to be effective. Educators will still need to plan to grade essays and other items the old-fashioned way. Computers lack the ability to assess items that don't have a specific technical requirement associated with them. They can easily grade multiple choice but struggle with the more time-consuming essay assignments. Of course, many schools are evaluating the advantages of machine learning due to the inherent cost. It can be quite expensive to purchase all new equipment and programs to make personalized learning an effective solution for educators and students. This can be one of the biggest limitations to machine learning.

## **V. Conclusion:**

The entire world is on the way of Digitalization and for that purpose the artificial intelligence and machine learning concepts plays an important role. Our research paper is totally based upon, how the intelligence and new machine technologies get invented in education system. Today's machines are ready to give the knowledge-based education and are responsible for improving the intelligence.

In future, we don't think and imagine about the progress of education technology due to only Machine Learning. Artificial intelligence and machine learning in education will be a game changer in the coming future. It will also bring many new opportunities to maintain the management, reduce the effort and learning gaps between the student and teachers. In the near future, machine learning will be more efficient and produce even better results.

### **References:**

- 1.** Tom M. Mitchell. Machine Learning. McGraw-Hill Science/Engineering/Math; (March 1, 1997)
- 2.** Bethel Tall Mafia (2018), "Machine Learning in Educational Technology" In Machine Learning (), IntechOpen, Rijeka. Retrieved from <http://dx.doi.org/10.5772/intechopen.72906>
- 3.** The Impact of Artificial Intelligence on Learning, Teaching, and Education: Policies for the Future. Retrieved from <https://www.researchgate.net/publication/329544152>.
- 4.** Student Performance Prediction using Machine Learning by Havan Agrawal, Harshil Mavani. International Journal of Engineering Research & Technology (IJERT) ISSN: 2278-0181 IJERTV4IS030127 www.ijert.org l. 4 Issue 03, March-2015
- 5.** Sally Goldman; Yan Zhou, "Enhancing Supervised Learning with Unlabeled Data", Department of Computer Science, Washington University, St. Louis, MO 63130 USA.
- 6.** Niklas Lavesson, "Evaluation and Analysis of Supervised Learning Algorithms and Classifiers", Blekinge Institute of Technology Licentiate Dissertation Series No2006:04, ISSN1650-2140, ISBN91-7295-083-8.
- 7.** Bing Liu, "Supervised Learning", Department of Computer Science, University of Illinois at Chicago (UIC), 851 S. Morgan Street, Chicago.
- 8.** T.S. Anantharman, M.S. Campbell, F.-h. Hsu, Singular extensions: Adding selectivity to brute-force searching, Artificial Intelligence 43(1) (1990) 99-110. Also published in: ICCAJ.11(4) (1988) 135-143.

**9.** Rich Caruana; Alexandru Niculescu-Mizil," An Empirical Comparison of Supervised Learning Algorithms", Department of Computer Science, Cornell University, Ithaca, NY 14853 USA  
Dissertation Series No 2006:04, ISSN 1650-2140, ISBN91-7295-083-8.



# **EDUCATION AND SKILL DEVELOPMENT IN INDIA: INITIATIVES & CHALLENGES**

**Dr.J.Meenambigai<sup>1</sup>,**

**D.Lokeshwaran<sup>2</sup>**

Associate Professor, Research Scholar

Department of Agricultural Extension

Faculty of agriculture

Annamalai University

## **ABSTRACT**

The socioeconomic development is significantly shaped by the education sector. In the past, India possessed a knowledge system that guaranteed the successful transmission of a comprehensive episteme from generation to generation as well as its augmentation in accordance with the needs of the times, the country, and the community. As a way to help students go beyond the boundaries of traditional academic learning, the concept of skill development has gained popularity in the fast-paced world of modern education. Skill development is the process of gaining new information and improving existing talents in a certain business. Education for skilling incorporates the expanding process, which makes students more employable and prepares them for lifetime learning. Education encompasses much more than just textbook reading and lecture attendance. It serves as a conduit between knowledge gained in the classroom and real-world application. Skills development is an important component of education because it provides people with the resources they need to deal with life's challenges and achieve success in a variety of disciplines. Recognising the need the government has implemented a number of ground-breaking reforms targeted at improving the quality, accessibility, and skill orientation of education throughout India. This paper investigates the evolution, significance of education and skill development in India.

**Key words:** Education sector, Skill development, Students.

## **Introduction**

Skill development is the process of gaining new information and improving existing talents in a certain business. It is critical to study, practise, get feedback, adapt to change, solve problems, communicate effectively, manage your time, and be persistent. This method is essential for personal development, career advancement, and remaining current in a fast-paced environment. It includes practice, formal education, and being up to date on current events. Developing new talents, honing existing ones via experience, and staying motivated are all key components. By developing their skills, people may overcome problems, enhance their competence, and achieve success in a variety of areas of life. Education for skilling incorporates the expanding process, which makes students more employable and prepares them for lifetime learning. To meet the demands of today's workplace, students must have practical skills in addition to academic knowledge. Skill development is an important component of education because it provides people with the resources they need to deal with life's challenges and achieve success in a variety of disciplines. This paper investigates the evolution, significance of education and skill development in India.

## **IMPORTANCE OF SKILL DEVELOPMENT FOR STUDENTS**

In today's fast-paced and fiercely competitive environment, skill development is critical for pupils. Using traditional academic knowledge alone is no longer adequate. To thrive in the ever-evolving landscape of the job market and to lead a fulfilling life, students must acquire a diverse set of skills which includes holistic growth, employability, adaptability, entrepreneurship, problem-solving abilities, self-confidence, life skills, and academic success.

### **1. Holistic Growth**

Skill development is an essential component of students' overall development. Beyond academic accomplishments, it fosters a well-rounded individual capable of navigating life's problems with confidence and competence. When students participate in skill development activities, they unlock their creative potential, develop their abilities, and widen their perspectives.

## **2. Employability**

In an increasingly competitive job market, employers seek candidates who possess not only academic qualifications but also a rich array of skills. Skill development improves a student's employment chances and employability. Employers favour people with a diversified skill set because they are more adaptive, versatile, and capable of managing a variety of duties.

## **3. Adaptability**

The modern job market is characterised by rapid technological advancements and changing industry trends. The current work market is distinguished by fast technical breakthroughs and shifting industrial patterns. Skill development pushes pupils to accept change and constantly improve their talents. Students who cultivate flexible abilities remain current and competitive in a constantly changing employment environment.

## **4. Entrepreneurship**

Skill development fosters the entrepreneurial spirit in pupils. Entrepreneurship is more than just establishing a business. Through skill development, students learn to think outside the box, take prudent risks, and make their ideas a reality. These entrepreneurial abilities are vital, as students launch their own businesses or contribute their original ideas to established firms.

## **5. Problem Solving**

One of the most important advantages of skill development is its impact on pupils' problem-solving ability. As children learn new abilities, they build a toolbox of problem-solving solutions that is used to many different facets of life and learn how to assess circumstances, identify problems and devise inventive solutions. These problem-solving abilities allows students to address complicated situations in both personal and professional settings.

## **6. Self-Confidence**

Learning new abilities has a significant influence on a student's confidence. When pupils become competent in a certain skill, they receive a sense of accomplishment and self-worth.

This confidence spreads beyond the individual talent and into other aspects of their lives. They grow more eager to take on problems, share their opinions and pursue their goals with conviction.

## **7.Life Skills**

Skill development provides students with valuable life skills that transcend beyond the classroom or profession. These life skills include good communication, time management, leadership, teamwork and emotional intelligence. Students who have these abilities are more able to navigate the challenges of adulthood, form meaningful relationships and manage both personal and professional commitments.

## **8.Academic Success**

Skill development can improve academic performance. When students participate in skill-building activities, they improve their cognitive capacities, critical thinking, and problem-solving ability. These talents are useful not just in real-world situations, but also in academic contexts. Students who have excellent analytical and organisational abilities are frequently better prepared to flourish in their studies, resulting in higher academic achievement.

## **SKILL DEVELOPMENT INITIATIVES**

- 1.** The Ministry of Skill Development and Entrepreneurship promotes skill development through the 'Causal Deekshant Samaroh' event. The construction of Skill India Centres is a deliberate initiative to match with the changing demands of many businesses, notably in media, tourism, hospitality by giving practical knowledge and training to ambitious professionals.
- 2.** Over 500 skill development facilities opened in 34 rural districts of Maharashtra to prepare youngsters for employment prospects. This effort, known as the Premed Mahakam Graeme Kaushalya Visas Kendra's, seeks to close the skill gap and provide rural youngsters with the skills they need to thrive in the workforce.
- 3.** The talent India Mission, established in 2015, aims to bridge the talent gap by providing short and long-term training programmes in approximately 40 areas.

- 4.** These courses are methodically developed to provide learners with practical skills that are linked with industry standards, so increasing their employability and lowering the need for extra training from companies.
- 5.** The Pradhan Mantri Kaushal Vikas Yojana (PMKVY), the flagship plan of the Ministry of Skill Development and Entrepreneurship (MSDE) and executed by the National Skill Development Corporation (NSDC), aims to provide skill development training to youth across the country, particularly in rural regions.
- 6.** The government has developed initiatives like as the Pradhan Mantri Yuva Yojana and Startup India to help early-stage entrepreneurs and foster an environment for creative enterprises.
- 7.** Jan Shikshan Sansthan (JSS), implemented by non-governmental organisations (NGOs), intends to give vocational training to non-literates, neo-literates, and school dropouts in rural areas by finding skills relevant to the local market. The emphasis is on promoting the growth of local businesses and developing new possibilities for the region's population.
- 8.** The National Apprenticeship Promotion Scheme-2 (NAPS-2) seeks to promote apprenticeship training in the country by providing partial stipend support to apprentices employed under the Apprentice Act of 1961, building capacity in the apprenticeship ecosystem, and providing advocacy assistance to stakeholders.
- 9.** Craftsman Training Scheme (CTS) offers long-term training through Industrial Training Institutes (ITIs) around the country. The ITIs offers a variety of vocational/skill training courses in a wide range of economic areas with the goal of providing skilled labour to industry as well as self-employment for youth.
- 10.** The recent introduction of Skill India Digital exemplifies the government's use of digital technology to expedite skilling activities and enhance talent acquisition. The government's focus on skill development demonstrates its commitment to creating a competent and entrepreneurial workforce that can drive India's economic growth and global competitiveness.

## **ANALYSIS OF BUDGET ALLOCATIONS FOR THE EDUCATION SECTOR**

Over the last decade, the government has shown a strong commitment to promoting education in India, as seen by considerable increases in financial expenditures to the education sector. Starting with Rs 68,728 crore in 2014, the budget for the education sector reached a record high of Rs 1,12,898.97 crore in 2024. This significant increase in financial resources underscores the government's persistent commitment to promoting education as a national development priority.

The National Education Policy (NEP 2020), which was presented on July 29, 2020, is another radical educational plan. Among its key aspects are measures to achieve universal access to education from pre-primary to Grade 12, with an emphasis on delivering high-quality early childhood education to children aged 3-6 years. The policy calls for a new curricular and pedagogical framework of 5+3+3+4 years, with the goal of breaking down hard barriers between subjects and streams. It prioritises fundamental literacy and numeracy through the development of a National Mission and stresses multilingualism, encouraging the use of the mother tongue or local language as the medium of teaching up to Grade 5. Assessment changes include holding board examinations twice a year and establishing the PARAKH National Assessment Centre. NEP 2020 is dedicated to fair and inclusive education, focusing on socially and economically disadvantaged people while providing transparent teacher recruitment and performance evaluation systems. Infrastructure development, vocational education integration, and holistic learning methodologies are all important components, with the ultimate objective of reaching 100% Gross Enrolment Ratio (GER) in preschool to secondary education by 2030, encouraging a more educated and empowered community. The Atal Tinkering Lab (ATL) programme, founded by AIM (Atal Innovation Mission) and NITI Aayog, is a notable educational endeavour. This project incorporates cutting-edge venues known as Atal Tinkering Labs into schools with the goal of cultivating curiosity and creativity among students in grades 6 through 12.

These laboratories, which are outfitted with cutting-edge equipment and technologies including the Internet of Things, 3D printing, rapid prototyping tools, robots, miniaturised electronics, and do-it-yourself kits, serve as platforms for students to stimulate problem-solving and promote an inventive attitude. Since its start, AIM has effectively created 10,000 ATAL Tinkering Labs around the country.

## **CHALLENGES IN EDUCATION AND SKILL DEVELOPMENT IN INDIA**

India faces several challenges in education and skill development, hindering its progress towards a more educated and skilled workforce. Some of these challenges include:

1. **Access to Education:** Despite attempts to expand educational access, particularly in rural regions, considerable inequities persist. Poverty, a lack of infrastructure, and cultural norms all prevent many children, particularly those from marginalised areas, from receiving a high-quality education.

2. **Education Quality:** Access to education is typically limited, resulting in poor quality. There is a paucity of skilled instructors, poor infrastructure, out-of-date curricula, and insufficient focus on practical skills and critical thinking.

3. **Skill Mismatch:** There is a large disparity between the skills provided by the educational system and those required by the labour market. Many graduates lack the necessary skills for work, resulting in high rates of unemployment or underemployment despite possessing a degree.

4. **Underinvestment in vocational education and training:** Underinvestment in vocational education and training (VET) has resulted in a shortage of trained personnel in industries such as manufacturing, construction, and healthcare. Vocational courses are stigmatised, with many people believing they are inferior to traditional academic programmes.

5. **Lack of Employability abilities:** Despite formal schooling, many individuals lack communication, problem-solving, collaboration, and adaptation abilities. This worsens the problem of unemployment and underemployment.

6. **Gender Disparities:** Access to education and skill development remains unequal. Girls, particularly in rural regions, are frequently denied schooling owing to issues such as early marriage, home duties, and safety concerns.

7. **Technological gap:** Although technology has the ability to transform education and skill development, India nevertheless faces a major digital gap. Many rural locations lack stable internet connectivity and infrastructure, which limits the efficacy of online learning efforts.

8. **Policy Implementation:** Efforts to solve difficulties are sometimes hindered by inefficiency, corruption and lack of accountability inside bureaucracies. To address these challenges, a comprehensive approach is needed that includes curriculum reforms, teacher training, infrastructure development, vocational education promotion, bridging the digital divide, and ensuring equitable access to education and skill development opportunities.

## **Conclusion**

Reforms in education and skill development have ushered in a new age of progress and opportunity for India. The changes not only transformed the teaching-learning process, but they also prioritised outcomes and direction in the education sector. These changes, which prioritise quality, accessibility, and relevance, have established the groundwork for a knowledge-driven economy ready to face the challenges of the twenty-first century. However, problems remain, and continuous investment and innovation will be critical in maintaining the pace of growth in the years ahead. Skill development is a vital part of a student's path to personal and professional success. It promotes overall development, employability, flexibility, entrepreneurship, problem-solving abilities, self-esteem, life skills, and academic performance. Encouraging students to participate in skill development is an investment in their future, giving them the tools they need to live fulfilled lives and contribute meaningfully to society. Finally, education and skill development are critical for improving employability in India, as the need for trained workers is increasing.



The Indian government and other organisations have undertaken a number of initiatives aimed at improving the country's education and skill development programmes. Furthermore, ongoing learning and upskilling are critical for individuals to stay relevant in today's rapidly changing employment environment. Addressing the issues and adopting effective policies to improve education and skill development would be critical for India to reap the demographic dividend and fulfil the needs of a fast changing employment market.

## **REFERENCES**

- 2.** Agrawal, T., & Agrawal, A. (2017). Vocational education and training in India: a labour market perspective. *Journal of Vocational Education and Training*, 69(2), 246–265.
- 3.** <https://economictimes.indiatimes.com/news/india/26-5-rise-in-student-enrolments-in-schools-higher-education-institutions-under--govt-education-min-dharmendra-pradhan/articleshow/106158808.cms?from=mdr>
- 4.** <https://www.indiatoday.in/education-today/news/story/pm-launches-new-teacher-training-scheme-232929-2014-12-26>
- 5.** <https://news24online.com/education/school-education-reforms-in-the-national-education-policy-nep-2020/232825/>
- 6.** <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1847066>
- 7.** [https://aim.gov.in/overview.php#:~:text=AIM%20has%20launched%20the%20Atal%20Tinkering%20Lab%20\(ATL\)%20program](https://aim.gov.in/overview.php#:~:text=AIM%20has%20launched%20the%20Atal%20Tinkering%20Lab%20(ATL)%20program)
- 8.** <https://doi.org/10.1080/13636820.2017.1303785> 2. Hussain Ansari, T. (2018). Role of Education and Skill Development to Promote Employment in India.
- 9.** <https://www.researchgate.net/publication/362734140> 4. Tiwari, P., & Malati, N. (2020).
- 10.** Employability skill evaluation among vocational education students in India. *Journal of Technical Education and Training*, 12(1 Special Issue), 218–228.
- 11.** <https://doi.org/10.30880/jtet.2020.12.01.02>.
- 12.** [https://www.epfindia.gov.in/site\\_docs/exmpted\\_est/Payroll\\_Data\\_EPFO\\_Dec\\_2022.pdf](https://www.epfindia.gov.in/site_docs/exmpted_est/Payroll_Data_EPFO_Dec_2022.pdf)