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Annotation

India is striving to become a developed country. Hence, India continuously trying to attract Foreign Direct Investment (FDI). However as per target, FDI has not been achieved so far. On the other hand, domestic small saving uninterruptedly reducing. The main source of small saving in banks and post offices are middle class people. Rising inflation, unemployment and poverty are the main cause of deceasing small saving. Apart from this middle-class people bearing burden of high taxation. Therefore, government of India can increase domestic small saving by controlling these problems. Otherwise, development may be with income inequalities. The various issues exist in our economy has been pointed out and discussed by the learned researchers.

Marginal cost of production theory of price fixation in public enterprises discuss how the prices are fixed in public enterprises. Because public enterprises produce several types of goods and services. The experts of public enterprise propounded various theories of price fixation. Marginal cost of production theory is one of the important theories which describe the method of price fixation. E-waste in the environment become serious problem for the people. There are number of diseases spread in the society and air become also polluted.

Women in entrepreneurship: financial strategies and support mechanism. A review, deals with literature review and literature search and given suggestions regarding women entrepreneurship. AI is the new concept not only for our country but also for whole world. The researcher discussed about this technology keeping in view the development of economy. The impact of AI on the market and workforce have been dealt categorically. Role of integrated marketing communication in modern Indian business has been analysed in this paper. The five step strategic planning process and major reasons for the growing importance of integrated marketing communication in India have been pointed out. The new education policy2020 has reviewed its current issues and future of higher education in balanced way. This paper has pointed out several issues like credit bank for academics, programme termination for M.Phil., a

yearlong programme leading to a master degree etc. Wooden craft industry in India with special reference to Varanasi district shows the economics of wooden industry. The production of wooden goods is increasing after support of Prime Minister Sri Narendra Modi. Today export of wooden crafts have been increased. Apart from the employment opportunity has also been enhanced.

We hope that collection of articles will provide valuable insights and stimulate further discussion on the important issues of economic development in India.

We are grateful towards renowned academicians who are on the advisory Board and Editorial Board and have given valuable suggestions time to time to enhance the standard of this Journal. We are also thankful to the peer reviewers who have spared their valuable time to review the papers which have been published in this issue of journal. We also highly obliged to the contributors who have send their paper for this issue.

We are confident that this issue would fulfil the needs academicians, administrators, researchers and readers.

Dr. V.K.L Srivastava
Chief Editor

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MARGINAL COST OF PRODUCTION THEORY OF PRICE FIXATION IN PUBLIC ENTERPRISES

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The marginal cost pricing theory in public utilities in a mixed economy was first propounded by H. Hotelling . Later on, it was advocated for all enterprises (whether public utilities or other- wise) in a socialist set up by A. P. Learner . These contributions led to a heated discussion for about a decade. The protagonists of this theory assert that the public enterprises should determine their prices on the basis of the marginal cost of production. The advantages of this principle are three fold: "Sale at marginal cost guides the consumers" choice in such a way that available economic resources can be used to best advantage for the community as a whole, costs can be analysed and allowances made for their possible changes and the conditions for securing the economic equilibrium of an industry within the context of overall economic balances are defined."

The marginal cost of production theory (Sometimes called the "Hotelling-Learner Rule' or 'The Rule') has been subjected to scathing criticism by several authorities.

Firstly, it is argued that marginal cost pricing theory will not ensure maximum welfare to the society. The assumption laid down for welfare economy are 'abstract'. If these assumptions are brought into real life, the principle that price should equal marginal cost cannot be accepted for abstract welfare economy. "The theory of welfare economy is based on premises which are scientifically unproven and even, according to prevailing opinion of extremely doubtful validity." The difficulty is which marginal cost long-term or short-term, should be followed. If the long-term marginal cost pricing principle is followed, the marginal cost will be equal to average cost and if the time period is short, the price will equal marginal cost and will lead to frequent and considerable changes in price levels, even within a single day, thereby causing fluctuations in demand and supply. Irregular and unforeseeable fluctuations are, however, a nuisance. The marginalists advocate the short-run solution by insisting that all outlays on durable and specific factors should be neglected and treated as by-gones."

If prices are determined equal to short-run marginal cost and fixed costs are ignored, then the public undertakings which produce under conditions of increasing returns or decreasing cost would incur huge losses. This can be made good in a number of ways. One way would be to levy a tax on the products of the public enterprise equal to the difference between the average cost of production and the price.

Such a tax would make the total price inclusive of tax equal to average cost and thus defeat the very purpose of marginal cost pricing.

Alternatively, tax may be levied ad valorem on the output in general. The loss can be meted out by other types of taxes, such as income tax, capital tax or death duty. It would rectify maldistribution of resources as between different industries resulting from inequality in the ratio of marginal cost to price in different industries. But at the same time, it may have adverse effects on income distribution, incentive to invest, propensity to consume, etc, whose net effect will have to be quantified with a view to making a correct estimate of the net benefit or loss as a result of the marginal cost pricing. Since it is not possible to quantity such effects, it is very difficult to say anything definite about the merit or otherwise of the marginal cost pricing.

Secondly, there are several difficulties in measuring marginal costs. The determination of costs in industries producing multiple com- modities or services is a costly affair. The marginal cost cannot be calculated due to indivisibility of the factors and the various charges on new factor intakes or not the charges on factor use needed for additional increments of output. Marginal costs would be very high at points were the capacity of plant get exhausted and for additional output new plant will have to be established. In such cases, the marginal cost at such point is inordinately high and it cannot be accepted as the basis of price determination.

In many cases, the marginal cost may be negligible or even zero. There would be hardly any marginal cost of an additional traveler on a road or a bridge. The unused capacity would be vast in case of museums, parks and broadcasting services and the marginal cost in these services will be negligible if more persons make use of these services. The absence of marginal cost however, does not imply that those who use the product or service should not pay.

In under-developed countries, where additions to investment are in lumps, the marginal cost curve over a period of time assumes the shape of a set of steps rather than a smooth curve and this makes the determination of marginal costs even more 'complex'.

CONCLUSION

It may thus be concluded that marginal cost production theory is not very suitable for pricing commodities and services in public enterprises.

REFERENCES

1. Hotelling, The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates, Econometrica, July 1938, pp. 242-69
2. A. P. Learner, Statics and Dynamics in Socialist Economies. The Economic Journal, June 1937, pp. 253-70
3. J. E. Mead and J. M. Fleming, Price and Output Policy of State Enterprises-A Symposium, The Economic Journal, December 1944, pp. 321-29
4. Sheila Bhalla, The Influence of Marginal Cost Theory on Pricing and Investment in British Nationalized Fuel Industries, Applied Economic Papers, March 1964, p. 41
5. (a) R. H. Coase, The Marginal Cost Controversy, Economica, August, 1946, ?. 169.
   (b) R. H. Coase, The Marginal Cost Controversy-Some Further Comments, Economica, May 1947, p. 150
   (c) R. H. Coase, Price and Output Policy of State Enterprises-A Comment, Economic Journal, April 1945, p. 112
   (d) T. Wilson, Price and Output Policy of State Enterprises-A Comment, Economic Journal, December 1945, p. 454
   (e) A. M. Henderson, The Pricing of Public Utility Undertakings, The Manchester School, September-1947, p. 223
   (f) A. M. Henderson, Prices and Profits in State Enterprises, The Review of Economic Studies, 1949-50, p. 13
   (g) M. D. Little, A Critique of Welfare Economics, Oxford University Press, London, 1957, p. 188
   (h) C. A. R. Crossland, Price and Costs in Nationalised Undertakings, Oxford Economic Papers, January 1950, p. 51
   (i) J. Wiseman, The Theory of Public Utility Price-An Empty Box, Oxford Economic Papers, February 1957, p. 56
6. T. Thiemeyer, Thesis Concerning the Problem of Price Setting in Public Undertakings, Annals of Collective Economy, July-September 1962, p. 253
7. W. Arthur Lewis, Overhead Costs Some Essay's in Economic Analysis, George Allen And Unwin Ltd., London, 1951, p. 19
8. G. S. Bhalla, Economic Theory and Public Enterprise Pricing, Indian Econo- mic Journal, October-December 1964, p. 158
9. W. A. Robson, Nationalised Industry And Public Ownership, George Allen And Unwin Ltd., London, 1960, pp. 291-94
10. V.K.L. Srivastava, Price Policy for Public Undertaking in India, Kalyani Publishers, New Delhi, 1982, pp. 29-32

E-WASTE AND ENVIRONMENT: AN EVALUATION

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ABSTRACT

Electronic waste is an emerging environmental and health issue not only in India but also in the whole world. E-waste includes gadgets like PCs faxes, smartphone, tablets, laptop video games, cameras, mobile phones, music players, T.V., radio, washing machines, refrigerators, remote etc. The situation has been become very alarming as our country generates about 1.5 lakh tones of e-waste annually. Metropolitan cities like Mumbai, Delhi, Bangalore etc. are at high risk of environmental pollution because of e-waste. The amount of e-waste generated poses a grave threat to the environmental as well as to public health. When e-waste wormed up toxic chemicals are released into the air polluting the atmosphere effects human health such as inflammation and oxidative stress, precursors to cardiovascular diseases, DNA damage and possibly cancer, damage to the immune system, interference with regulatory hormones, throat, eye problems, kidney damage, hamper brain development in children etc. E-waste is very harmful because it is connected health which is connected wit harmful materials like lead, cadmium, brominates flame retardants or polychlorinated biphenyls.

According to environmental protection agency, June 17, 2004 computers and computer monitors in the unite states are the major source of unnecessary production of millions of tons of green houses gases every year. Thus the united states and china generated the most e-waste last year 32 percent of the word's total However hazardous environmental problem can be solved to recycle e-waste. But recycling industries are facing various problems which are: poorly trained employees, employee retention cultural issues, lack of industry expertise poor or non existent process etc. India is ill equipped in skilled labor to handle e-waste recycling. Only 1.5 percent of e-waste generated in India get recycled. Maharastra ranks highest in producing e-waste India followed by Andhra Pradesh, Tamilnadu, Uttar Pradesh, West Bengal, Delhi and Karnataka in the amount of E-waste generated. In order to overcome the problem, recycle e-waste, don't throw e-waste in the trash, reuse, donate old electronics sale old electronics, etc.

INTRODUCTION

Electronic and electrical industries are the world's fastest growing industry. But as far as sales electronic equipments, are increasing, the rapide obsolescence such as change in fashion, advancement in technology, status and style has resulted in generation of e-waste. However, rapid economic growth, urbanization and a increasing demand for consumer goods enhanced to the consumption and production of electronic and electrical equipment (EEE). E-wastes generated from use electronic devices and household appliances which are now required for their use and are destined for recovery, recycling or disposal. The Indian information technology (IT) industry has been one of the major drivers of change in the economy in last decade and has contributed too much to the digital revolution being experienced by the world.

Even though electronic applications have infiltrated every aspect of our daily lives such as health, security, comfort, easy information, data acquisition, the knowledge society is creasing its own toxic footprints. E-waste management has greater significance not only generation of its own e-waste but also because of the dumping of e-waste from developed countries. Particularly computer waste into India from foreign countries has complicated the problem of e-waste. The increased market penetration in the developing countries and high obsolescence rate make e-waste on of the fastest growing waste streams all over the world. E-waste management has become not only an issue of environmental but also human health. E-waste management problem become serious because of India's lack of appropriate policy for its disposal and recycling. As per global report live science.com world's e-waste grow to 33 percent by 2017. Nearly 80 percent of all the e-waste are exported to Asia. Sixty five cities in India generate more than 60 percent of the total E-waste is generated in India. 10 states generates 70 percent of the total e-waste generated in India. Maharastra ranks first followed by Tamilnadu, Andhra Pradesh, Uttar Pradesh, West Bengal, Delhi, Karnataka, Gujarat, Madhya Pradesh and Punjab in the list of E-waste generating states in India.

The to state in order of highest contribution to e-waste, include Maharastra, Andhra Pradesh, Tamilnadu, Uttar Pradesh, West Bengal, Delhi, Karnatak, Gujrat, Madhya Pradesh and Punjab. The city wise ranking of largest e-waste generators is Mumbai, Delhi, Bangalore, Chennai, Kolkata, Ahmadabad, Hyderabad, Pune, Surat and Nagpur. This may be due to the presence of a large number of Info tech parks and electronic products manufacturing companies situated in these area, which plays the main role in e-waste generation.

IMPACT DUE TO HAZARDOUS COMPONENTS PRESENT IN E-WASTE

E-waste consists of both toxic and valuable materials in them (EU 2009) the fraction including iron, copper, aluminium, gold and other metals in waste is over 60% while plastic account for about 30 percent and hazardous pollutants comprise only about 2.7%. E-waste should not be combined with unsorted municipal waste destined for landfills because electronic waste can contain different substances, many of which are toxic, such as mercury, lead, arsenic, cadmium etc. The table 1 shows about few of the toxic components present in e-waste disease as per five winds.

Table-1 : The toxic components present in e-waste

Component	E-waste product and operation disposal	Adverse health effects
Chromium	Used to protect metal housing	Inhaling hexavalent chromium or use

Source: Fire winds International in India

MANAGEMENT TECHNIQUES OF E-WASTE IN INDIA:

Landfilling

It is one of the most widely used methods for disposal of e-waste in India. Here, trenches are made on the flat surface and soil is excavated from the it. Than waste materials are busied in it, which is covered by a thick layer of soil.

Incineration

It is a controlled and complete combustion process, in which the waste material is burned in specially designed incineration at a high temperature (900-10000C) some plants remove iron from the slag for recycling. By incineration some environment hazardous organic substances are converted into less hazardous compounds.

Recycling

Recycling is a process of dismantling i.e. removal of different parts of e-waste containing dangerous substances like PCB, Hg, separation of plastic, removal of CRT, segregation of ferrous and non ferrous metals and printed circuit boards, hard drives, floppy drives, compact disks, mobiles, fax machines, printers, CPUs, memory chips, connecting wires and cables can be recycled.

IMPACT OF E-WASTE MANAGEMENT ON ENVIRONMENT:

Landfilling management

Land filling can leak. They are not completely tight throughout their life times and a certain amount of chemical and metal leaching may occur. Mercury will leach when certain electronic devices, such as circuit breakers are destroyed, lead.

Incineration:

Disadvantage of incineration one of the emission of fl eases and the large amount of residues due to combustion. E-waste incineration leads to the annual emission of cadmium and mercury. The incineration of dominated flame- retardants at a low temperature of 600-8000C may lead to the generation of extremely toxic prolyprominated dioxins and polybrominated furnace. Significant quality of PVC is contained in e-waste, which makes the gas residues and air emissions particularly dangerous. (MOEF 2008, research unit, Rajya Sabha Secretariat 2011, Salabh Agrawal, 2012, Divya Gupta, 2012).

Recycling:

Recycling of hazardous products have environmental benefit, only if these is a goal to redesign the product to use non hazardous materials, the hazard associated with disassembly stage is the possibility of accidental spillages of hazardous substance. For example, mercury found within light sources (fluorescent tubes in scanners, photocopiers etc.) as well as switches could be released into the air of a recycling facility upon breakage of the shell (Puckett and Smith, 2002).

A hazardous emission into the air also results from recycling of e-waste containing heavy metals, such as leads, cadmium etc. (Asaute et. At. 2012).

Table 2 shows the hazardous effect due to e-waste treatment.

Table 2 : Hazardous effects due to E-waste treatment

Treatment	Hazardous
Land filling	Leakage of toxic substances
Recycling	Accidental spillage d-hazardous substances
Incineration	Escaping of flue gases to the atmosphere

E-WASTE RECYCLING IN INDIA:

India, with over 1.267 billion people, is the second most popular country in the world. (World Bank 2014). India is one of the fastest growing economics of the world. Unfortunately economic growth and environmental protection indicator are at odds with one another. A report by a New Delhi based NG, Toxics link on computer waste, estimated approximately India business and individual households make approximately 1.38 million personal computers obsolete every year. There is also a large quality of e-waste from manufacturing in the form of defective printed wiring boards, IC chips and other components discarded in the production process.

In India waste collectors pay consumers a positive price for their obsolete appliances (D. Sinha, Khetriwal et. Al, 2005). The waste collectors sell their collections to traders who aggregate and sort different kinds of waste and then sell into recyclers, who recover the precines metals.

The entire industry is based on a network which consists of (a) collectors who collects e-waste from primary generators such as offices, manufacturers, organized markets, and importers (b) traders who by the e-waste from collectors (c) Recyclers who dismantles waste for the reuse and precious metal extraction. Each has added values and creating jobs at every point in the chain. As the volume of e-waste has grown, some waste processors focus only on e-waste. Since a low level of initial investment is required to start a collection, dismantling, sorting or recovery business, it attractive for small entrepreneurs to join the industry (D. Sinha).

The main motives for the entrepreneurs is financial

profit not environmental or social awareness. But the trade and recycling alliances provide employment to many groups of people. E-waste recycling has become a profitable business flourishing as an unorganized sector mainly as backyard workshops (Empa 2004).

For Delhi, study estimates the number of unskilled workers in recycling and recovering operations to be at least 10,000 people (Empa 2004). The biggest drawback of the current Indian recycling system is the uncontrolled emission of hazardous toxics that are going into air water and soil. The health hazardous from fumes, ashes, and harmful chemicals effect not only the workers who come into contact with the e-waste, but also the environment. The figure 1 below gives the flow chart showing the flow of E-waste from origin to destination during recycling process from primary generators to tertiary generators (140EF 2008).

FINDING:

- E-waste should not be combined with unsorted municipal waste destined landfills because electronic waste contains different substances, many of which are toxic, such as lead, mercury arsenic, cadmium etc.
- Bio remediation might be an environmentally friendly and fruitful method complementary to engineering based approaches which is also a effective solution.
- In formal recycling leads to uncontrolled emission of hazardous toxics that are going into the air, water and soil. The health hazardous from fumes, ashes and harmful chemicals affect not only the workers who come into contact with the e-waste, but also the environment.
- As global hazardous waste always flows from origin to the destinations with weaker environment regulations the dirty side of its recycling processes would never be properly addressed.
- A policy should be desized and find out the effective ways to improve job quality in the recycling industry in India. A formal method of recycling will be a better option.

CONCLUSION:

The problem of e-waste is growing tremendously not only in India but all over the world. Improper handling and management of e-waste during recycling and other end of life treatment options may develop potentially significant risks to both human health and environment.

In India consumers are expected to receive payment for their e-waste which is viewed as a potentially valuable resource. If management of e-waste is properly carried out, is an opportunity as it is often called as "urban mining", bioremediation methods can improve the scenario of current treatment practices available for e-waste. Current informal method of e-waste management in is causing risks that could to a large extent, and this could be rectified by using a formal method of e-waste recycling.

REFERENCES:

1. Zeenat Alam, Dr. Amole Goze, Self-Powered Sustainable Model of E-waste Management with CSR Initiative for Manufacturers and Business Consumers for socio-economic Upliftment in Pune, India, International Journal of Scientific and Engineering Research, Vol. 6, Issue 3, March 2015
2. Gulshan Sirkeck, Gaurav Gupta, Managing E-waste in India. A Review, IJSER Journal
3. S. Siva Rama Krishnan, Challenges in Managing E-waste in India, Disaster, Risk and Vulnerability conference 2011, School of Environmental Science, Mahatma Gandhi University, India in associated with the Applied Geoinformatics for Society and Environment, Germany, March 12-14, 2011
4. Ramchandra T.V., Saira Varghese K, Environmentally Sound Options for E-waste Management, Envis Journal of Human Settlements, March, 2004.

"WOMEN IN ENTREPRENEURSHIP: FINANCIAL STRATEGIES AND SUPPORT MECHANISMS - A REVIEW"

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ABSTRACT

Purpose-*This paper aims to review and synthesize research on financial issues faced by women entrepreneurs over the past decade. It highlights key findings from the literature on women's entrepreneurial finance.*

Design/Methodology/Approach-*The review encompasses an analysis of 30 papers published between 2012 and 2022 in Scopus-indexed journals. It examines various aspects such as the year of publication, definitions of variables, research methodologies, relationships among variables, results, recommendations, and theoretical models of capital structure presented in the selected studies.*

Analysis-*The findings from the reviewed research are analyzed to draw meaningful insights and implications for understanding the financial challenges and opportunities for women entrepreneurs.*

Findings-*The review identifies a significant gender bias in entrepreneurial finance, revealing that women entrepreneurs often lack both the knowledge and skills necessary for success. Major challenges include limited access to financing, insufficient training leading to a lack of technical skills, inadequate awareness of financing sources and technical support, high market competition, marginalization, and a lack of understanding of effective marketing strategies.*

Originality/Value-*To the best of the authors' knowledge, this is the first comprehensive review of literature on financial issues specific to women entrepreneurs. The paper systematically synthesizes findings and offers a unique contribution to the field.*

Paper Type: *Literature review*

Keywords: *Women entrepreneurs, micro finance, review, training, gender gap*

INTRODUCTION

In many cultures, traditional beliefs often confine women to domestic roles, such as child-rearing and household chores. However, since the turn of the 21st century, there has been a significant shift in the status of women in India, driven by industrialization, liberalization, globalization, social reforms, and privatization. Increasing awareness and access to education have allowed women to move beyond traditional domestic roles and engage in high-level managerial and professional careers.

Historically dominated by men, entrepreneurship is now witnessing a remarkable transformation with women emerging as influential and pioneering entrepreneurs. In many developed countries, women are making substantial strides in various business sectors, including trade, industry, and engineering. Their involvement in entrepreneurship is proving to be a transformative force in economic development, contributing significantly to national progress.

In India, however, women entrepreneurs still face considerable challenges compared to their male counterparts. Persistent discriminatory values and traditions limit their opportunities. These barriers extend to the support systems available to them, impacting their ability to access capital, land, business premises, information technology, training, and essential support services. Additionally, entrenched patriarchal attitudes further hinder their entrepreneurial potential.

LITERATURE REVIEW

Research into gender disparities in new venture financing, particularly within the Latin American equity crowdfunding sector, reveals that while having women involved in a project can increase its chances of success, it does not significantly impact the level of funding received (Cicchiello, Kazemikhasragh, & Stefano, 2020).

In the context of rural youth entrepreneurship in Benin, a study found a gender gap where male youths were more likely to secure financing compared to their female counterparts. The study also highlighted the crucial role of education in improving access to financial resources (Senou & Manda, 2022).

For women entrepreneurs, factors such as access to finance, legal constraints, and skills significantly impact their business activities. Additionally, education and self-leadership, which are interconnected, play a critical role in encouraging female participation in entrepreneurship (Khalid, Raza, Sawangchai, & Somtawinpongsai, 2022).

A study focused on women entrepreneurs in Kosovo revealed multiple challenges, including difficulties with accessing financial resources, skill development, obtaining support, and managing work-life balance. The study advocates for increased government support and programs to address these issues (Gashi, Ahmeti, & Baliu, 2022).

In Chile, an evaluation of a women entrepreneurship development program found that while the program improved access to loans for women, issues like lower income, insufficient commercial records, and lack of networks continued to hinder women's ability to secure credit. The study recommends enhanced training and education for female entrepreneurs (Andrea, 2022).

A survey of businesses in North Africa, covering 3,896 businesses, highlighted issues of self-selection and discrimination affecting female entrepreneurs. The study noted gaps between the loans required and those supplied, influenced by risk aversion, limited financial literacy, and creditworthiness (Berguiga & Adair, 2022).

Research on investor perceptions in equity crowd funding, using data from 492 campaigns across Brazil, Chile, and Mexico, demonstrated that having at least one woman on a firm's board significantly increases campaign success rates and investor pledges. The study suggests that gender equality on boards should be a standard practice in equity crowd funding (Cicchiello, Kazemikhasragh, & Monferra, 2021).

RESEARCH METHODOLOGY

This study is based on a literature review, utilizing a scientific and unbiased approach to explore past research in the area of finance for women entrepreneurs.

RESEARCH QUESTIONS:

- What is the state of the women entrepreneurship ecosystem in developing countries?
- What is the current situation regarding access to finance for women entrepreneurs?
- What are the key challenges and obstacles faced by women entrepreneurs?
- Which programs and policies have the most significant impact on the financial system for women entrepreneurs?
- What factors influence the success of women-owned businesses?

LITERATURE SEARCH:

The review adopts a systematic approach to analyze relevant research articles. This process involves identifying, screening, and selecting research papers for inclusion in the study. The articles were identified through the Scopus database, primarily from publishers like Emerald, Taylor & Francis, and Wiley, resulting in 30 papers (N=30). The initial search used keywords such as "women," "entrepreneurship," and "finance," which were further refined with terms like bank finance, loan, female, women, entrepreneurship, gender disparity, access to finance, financial inclusion, gender issues, access to credit, women's status, microfinance, barriers to financing, economic growth, and economic instability.

The time frame for the articles included in the review was restricted to the period from 2012 to 2022 to provide a comprehensive overview. During the screening stage, 30 articles were identified and downloaded from Google Scholar; however, 2 of these papers were not accessible and therefore could not be included in the study.

In the inclusion stage, only 17 papers were selected for detailed analysis after applying exclusion criteria. Eight papers were excluded because they were industry-specific, focused on a particular scheme, centered on model development, or exclusively addressed gender, ecosystem, or factor-specific issues that were not aligned with the research questions of this study.

Review Process: Each selected article underwent a thorough review. The research papers were examined with a focus on their objectives, research design, research questions, variables addressed, relationships between variables, methods of data collection, analysis techniques, results, and findings. The recommendations and conclusions from each study were also considered. The findings have been organized into a tabular format to provide a clear understanding and facilitate drawing inferences from the previous research in this field.

Study Objectives: The study aims to explore and gain insights into the financial challenges faced by women entrepreneurs, particularly in developing countries. The literature review concentrates on examining studies related to finance, gender bias, challenges, and policies affecting women entrepreneurs across various nations.

Cicchiello, Kazemikhasragh, and Monferrà (2022), published in the International Journal of Emerging Markets, the authors investigate gender differences in new venture financing, focusing on equity crowdfunding in Latin America, specifically in Brazil, Chile, and Mexico.

The research examines variables such as project success, overfunding, gender, firm age, industry, country, advisor, founder's LinkedIn connections, equity offer size, and investor type. The methodology involved collecting data from 492 equity crowdfunding campaigns launched between 2013 and 2017 across existing platforms in these countries. The study employed quantitative methods to collect, analyze, and cross-check the data for accuracy.

The results revealed that gender plays a significant role in funding success, with male-led ventures more likely to achieve overfunding. However, no significant difference was found in project success between male and female-led ventures. Based on these findings, the authors recommend that women should be more actively involved in entrepreneurship in Latin America. Additionally, policies need to be implemented to address gender biases, and marketing agencies should actively support the development of female entrepreneurship in the region.

Senou M.M. and Manda J. (2022) published in the African Development Review, the authors explore access to finance and rural youth entrepreneurship in Benin, with a focus on whether a gender gap exists.

The research examines variables such as entrepreneurship status (self-employed or family business), turnover, access to finance, operating expenses, age, gender, education, training, financial situation, marital status, experience, and sector background. Data was collected through a survey of 900 youths, and the relationship among these variables was analyzed using the Endogenous Switching Probit model. The study found that age, education, financial status, experience, and sector are significant determinants for access to finance, and it revealed a gender gap in rural entrepreneurship concerning access to finance. The authors recommend that formal financial institutions should adjust their credit criteria to better support youths who lack collateral assets, making it easier for them to obtain financing.

In their 2022 study published in ***Corporate Governance and Organizational Behavior Review, Gashi, Ahmeti, and Baliu*** examine the challenges faced by women entrepreneurs in Kosovo, a developing economy in Northeast Europe.

The research considers factors such as age, region (urban/rural), marital status, firm age, difficulty in obtaining financial resources, capital employed in business, managing family responsibilities, and sociocultural challenges. The study combines secondary data from articles, books, and reports with primary data collected from 87 women through surveys, analyzed using descriptive statistics. The findings highlight significant difficulties in securing financial resources, balancing business and family life, and overcoming social barriers. The authors recommend campaigns to raise awareness of women entrepreneurship and provide better access to finance, markets, and skills development, particularly in technology.

BentancorA. (2022). "Women's Entrepreneurship and Government Policy: Facilitating Access to Credit through a National Program in Chile." Social Sciences.

This study evaluated a Chilean national program designed to support women entrepreneurs by improving access to credit. Data from 269 training branches were analyzed to assess financial availability and amounts lent. The findings highlight a gender gap in finance access and show that women often choose entrepreneurship for its flexible hours. The program positively impacts the women entrepreneurship ecosystem, enhances financial access, and reduces the gender gap, suggesting that similar initiatives should be adopted in other developing countries.

BerguigaI. & Adair P. (2021). "Funding Female Entrepreneurs in North Africa: Self-Selection vs. Discrimination?" International Journal of Gender and Entrepreneurship.

This study examines funding for female entrepreneurs in North Africa, analyzing data from 3,896 businesses in Egypt, Morocco, and Tunisia. It uses descriptive statistics and regression models to explore gender differences in ownership, management, and access to finance. Findings indicate that fewer women own or manage businesses compared to men, and that gender discrimination affects loan access. Factors like firm characteristics, owner demographics, and macroeconomic conditions influence the success of loan applications.

CicchielloA.F., KazemikhasraghA., & MonferraS. (2021). "In Women, We Trust! Exploring Changes in Investors' Perceptions in Equity Crowd funding." Gender in Management.

This study investigates how gender impacts equity crowd funding success in Latin America. Data from crowd funding platforms show that having at least one woman on a firm's board improves campaign success and average investor pledges. Gender of founders does not significantly affect the number of investors, but mixed-gender teams are more likely to reach fundraising goals compared to all-male or all-female teams. The research highlights gender disparity in equity crowdfunding from the entrepreneurs' perspective.

Yingjun Z., Jahan S., & Qamruzzaman M. (2021). "Access to Finance and Legal Framework in Female Entrepreneurship Development in Bangladesh: The Mediating Role of Self-Leadership." Asian Economic and Financial Review.

This study examines how access to finance, legal constraints, and entrepreneurial skills affect women's participation in entrepreneurship in Bangladesh, with a focus on self-leadership. Data from 1,200 women indicate that while access to finance and entrepreneurial skills positively influence participation, legal constraints and limited access to banking financing hinder women's entrepreneurial activities. The findings underscore the need for policies that support women in accessing technology, materials, markets, and funding.

Bonin S., Singh W., Suresh V., Rashed T., Uppaal K., Nair R., & Bhavani R.R. (2021). "A Priority Action Roadmap for Women's Economic Empowerment (PARWEE) Amid COVID-19: A Co-Creation Approach." International Journal of Gender and Entrepreneurship.

This study explores how COVID-19 impacted women

entrepreneurs in India through in-depth interviews with 24 women from various professions. Thematic analysis revealed key priorities for economic empowerment, including access to finance, capacity building, healthcare, partnerships, marketing opportunities, and creating support networks. The findings inform stakeholders and policymakers on designing effective programs to support women entrepreneurs.

CONCLUSION

This research contributes to the literature by systematically analyzing existing studies on finance and women entrepreneurship. The review includes 08 carefully selected research papers, highlighting various factors affecting women's access to finance. Key findings reveal a significant relationship between gender and fundraising, with notable gender bias in finance access. Challenges faced by women entrepreneurs include securing financing, managing work-life balance, lack of training and development, difficulty in providing credible guarantors, poor track records for loan applications, barriers to entering core industries and markets, lack of collateral, and social and economic inequalities

RECOMMENDATIONS

Based on this research, the following recommendations are proposed for policymakers:

1. Implement training and skill development programs specifically for women entrepreneurs.
2. Assess the status of women entrepreneurship at the country level.
3. Develop formal financial systems to improve access to finance for women.
4. Minimize credit criteria and simplify loan procedures.
5. Address gender bias in finance access and ensure fair treatment.
6. Enhance access to resources and create favorable policies for collateral requirements.
7. Increase availability of microfinance options.

FUTURE SCOPE OF RESEARCH

While this review has been conducted thoroughly, some limitations should be considered for future studies. The review is based on articles from the Scopus database and does not include other databases, unpublished papers, doctoral or master's theses, and books. It is also restricted to English-language sources. This study provides insights into major determinants of finance for women entrepreneurs, particularly in developing countries. Future research could expand by including additional databases and sources, and by comparing these findings with the ecosystems of developed countries.

REFERENCES

1. Senou, M., & Manda, J. (2022). Access to finance and rural youth entrepreneurship in Benin: Is there a gender gap African Development Review, 34(1), 29-41.
2. Ahmad, S., & Arif, A. (2015). Professional insights: Strengthening access to finance for women-owned SMEs in developing countries. International Journal of Political Economy, 44(4), 634-639.
3. Andrea, B. (2022). Women's entrepreneurship and government policy: Facilitating access to credit through a national program in Chile. Social Sciences. MDPI.
4. Aterido, R., Beck, T., & Iacovone, L. (2013). Access to finance in Sub-Saharan Africa: Is there a gender gap? World Development, 47, 102-120.
5. Berguiga, I., & Adair, P. (2022). Funding female entrepreneurs in North Africa: Self-selection vs. discrimination? International Journal of Gender and Entrepreneurship, 14(4), 394-419.
6. Bonin, S., Singh, W., Suresh, V., Rashed, T., Uppaal, K., Nair, R., & Bhavani, R. R. (2021). A priority action roadmap for women's economic empowerment (PARWEE) amid COVID-19: A co-creation approach. International Journal of Gender and Entrepreneurship.

7. Cesaroni, F., & Sentuti, A. (2016). Economic crisis, women entrepreneurs, and bank loans: Some empirical evidence from Italy. Economic Research-Ekonomska Istraživanja, 29(1), 1050-1061.

8. Cicchiello, A., Kazemikhasragh, A., & Monferra, S. (2020). Gender differences in new venture financing: Evidence from equity crowdfunding in Latin America. International Journal of Emerging Markets, 15(1), 1175-1197.

9. Cicchiello, A., Kazemikhasragh, A., & Monferra, S. (2021). Funding female entrepreneurs in North Africa: Self-selection vs. discrimination? Gender in Management.

10. Gashi, R., Ahmeti, H., & Baliu, E. (2022). Challenges of women entrepreneurs in the developing economy. Corporate Governance and Organizational Behavior Review, 6(2), 134-142.

11. Ghosh, P. K., Ghosh, S., & Chowdhury, S. (2018). Factors hindering women entrepreneurs' access to institutional finance: An empirical study. Journal of Small Business and Entrepreneurship, 30(3), 279-291.

12. Khalid, R., Raza, M., Sawangchai, A., & Somtawinpongsai, C. (2022). The challenging factors affecting women entrepreneurial activities. Journal of Liberty and International Affairs, 8(2), 51-66.

13. Kim, G. (2018). Entrepreneurial financing relationships: How does gender matter? International Journal of Gender and Entrepreneurship, 10(1), 39-60.

14. Kushwah, S., Singh, T., Vigg, M., & Singh, V. (2021). Role of entrepreneurship support in women empowerment: An empirical analysis. Academy of Entrepreneurship Journal, 27(2).

15. Leclaire, J. (2015). Women and investment: The role of fiscal policy. International Journal of Political Economy, 43(4), 296-310.

16. Mahmood, S., Hussain, J., & Matlay, H. (2014). Optimal microfinance loan size and poverty reduction among female entrepreneurs in Pakistan. Journal of Small Business and Enterprise Development, 21(2), 231-249.

17. Marlow, M., & Swail, J. (2014). Gender, risk, and finance: Why can't a woman be more like a man? Entrepreneurship & Regional Development, 26(1-2), 80-96.

18. Rudhumbu, N., du Plessis, E., & Maphosa, C. (2020). Challenges and opportunities for women entrepreneurs in Botswana: Revisiting the role of entrepreneurship education. Journal of International Education in Business, 13(1).

19. Yingjun, Z., Jahan, S., & Qamruzzaman, M. (2021). Access to finance and legal framework in female entrepreneurship development in Bangladesh: The mediating role of self-leadership. Asian Economic and Financial Review, 11(4).

AI AND THE FUTURE OF WORK: SKILLING THE WORKFORCE FOR EMERGING TECHNOLOGIES IN INDIA

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ABSTRACT

Recent advancement in computing and technology especially in the concept of AI and other technologies is altering the traditional employee jobs and skill demand. For India with its millions of people and diverse population understanding such changes is one of the keys to economic development and competition. This paper "AI and the future of work: Skilling the workforce for emerging technologies in India" examines the transformative impact of Artificial Intelligence (AI) on India's workforce. The study highlights the need for India to address the implications of AI on its diverse and informal labor market. The research methodology uses secondary data from various sources to provide a comprehensive understanding of AI and employment trends. The findings suggest that AI offers increased efficiency and innovation but also poses risks like job displacement and a widening skill gap. To mitigate these challenges, the paper advocates for a multi-faceted approach to workforce development, including revamping educational curricula, promoting continuous learning and upskilling programs, and fostering collaboration between industry and academia. Inclusive skilling initiatives are also crucial.

Keywords: *Artificial Intelligence, Emerging Technologies, Skill Development, Skilling workforce*

INTRODUCTION

The advent of Artificial Intelligence (AI) is heralding a transformative era, fundamentally reshaping the nature of work and the workplace. As AI and emerging technologies continue to evolve, they are creating new opportunities and challenges across various sectors globally. AI is defined as the ability of a machine to reproduce human like intelligence in its function and processes. These are capable of doing jobs that are usually performed by individuals by incorporating skills that are associated with human beings, like vision, speech understanding, judgment, and translation. AI systems are designed to analyse data, identify patterns, and make predictions or decisions based on the information they process.

Figure 1. Artificial Intelligence Development History Timeline

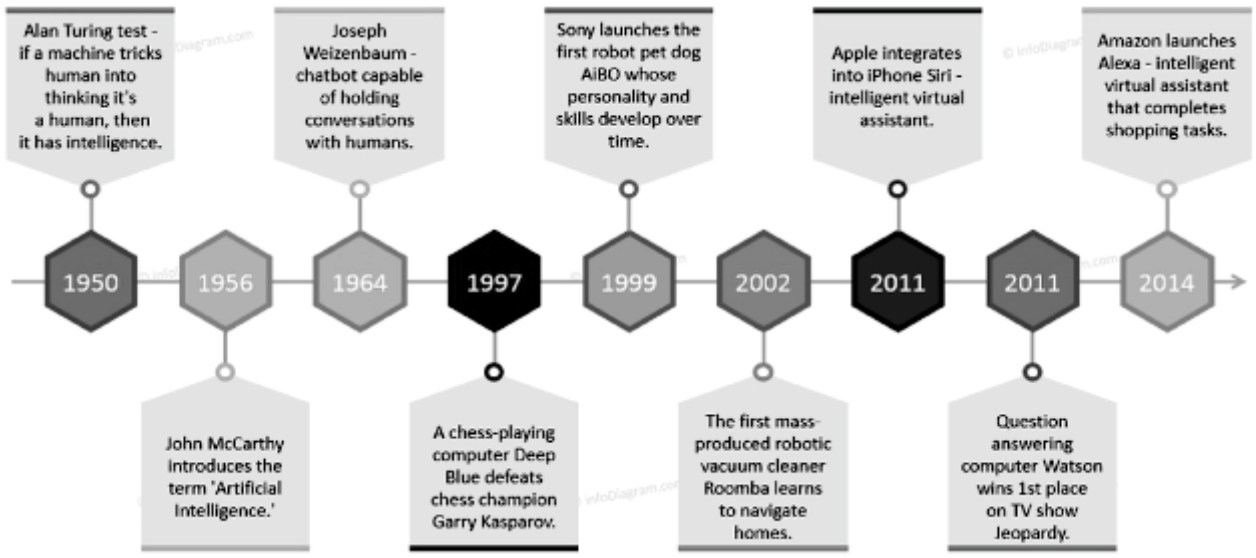
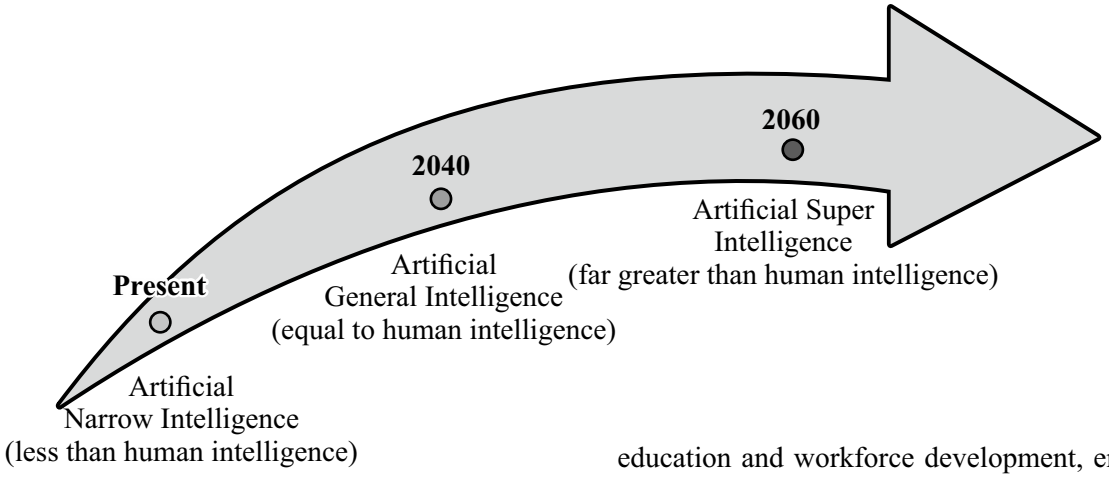


Figure 2. Future Evolution of Artificial Intelligence



AI Promises to boost productivity and growth, but its impact on economies and societies in is uncertain varying by job roles and sectors, with the potential to amplify disparities. The integration of AI into various sectors is expected to enhance productivity, drive innovation, and create new job opportunities. However, it also poses the risk of job displacement and skill mismatches. The nature of work is evolving, with an increasing demand for a workforce proficient in digital literacy, technical skills, and the ability to adapt to rapidly changing technological landscapes. This necessitates a paradigm shift in the approach to education and workforce development, emphasizing continuous learning and skill enhancement.

As the world's second most populous country and a burgeoning hub for technology and innovation, India stands at a critical juncture where proactive measures are essential to harness the benefits of these technological advancements. In India, a country with a burgeoning population and a rapidly growing economy, the implications of AI on the workforce are particularly profound. The Indian labor market, characterized by its vast diversity and a significant proportion of the population engaged in traditional and informal sectors, faces a pivotal moment of transition.

LITERATURE REVIEW

(Rangarajan & Rubasree, 2024) This paper discusses the importance of up-skilling and re-skilling in response to evolving skill demands in the workforce. The primary objective of the study is to propose the implementation of up-skilling and re-skilling initiatives to create a future-ready workforce capable of adapting to changing job requirements. According to the study These initiatives not only benefit individual employees by enhancing their skills but also contribute to organizational success through improved employee engagement, talent mobility, and overall performance. Effective leadership, continuous learning, and evaluation of training outcomes play key roles in the successful implementation of up-skilling and re-skilling programs in modern workplaces.

(Oluwaseyi & Cena, 2024) This article investigates the impact of artificial intelligence (AI) on employment and income distribution. It analyses the mechanisms through which AI influences labor market dynamics and income distribution patterns. The analysis reveals that AI adoption exacerbates income inequality, leading to wealth concentration in tech industries and disparities in access to opportunities. Ethical considerations are crucial in AI development and deployment to ensure equitable outcomes. The paper emphasizes the importance of continuous monitoring and adaptation of policies to address AI's challenges, advocating for investments in education and training, strengthening social safety nets, and promoting sustainable employment strategies.

(Choudhary, 2024) The paper "Artificial Intelligence and Its Impact on Economic Growth" explores the transformative potential of AI in various industries, its contributions to productivity and innovation, and the challenges and opportunities it presents to policymakers, businesses, and society. It highlights the significance of sustainable and inclusive economic growth in the AI era. The research highlights AI as a driving force behind economic growth, with the potential to enhance productivity and innovation across various industries. However, it also stresses the need for vigilantness in addressing ethical, societal, and economic challenges associated with its widespread adoption. The authors aim to provide valuable insights into the trajectory of AI-driven economic growth, advocating for a future where AI's transformative power benefits all segments of society.

OBJECTIVES

- To examine how AI and emerging technologies are transforming job roles and employment patterns in India
- To predict future trends in AI and emerging technologies and their implications for workforce requirements in India.
- To investigate the role of educational institutions, training programs, and online platforms in providing relevant skills and training for AI.

RESEARCH METHODOLOGY

This study is based on the data collection from the secondary sources. The secondary data for the study were gathered from journals, published articles, government documents, reports, websites, e-books, and magazines.

IMPACT OF AI ON THE WORKFORCE

AI is transforming the workforce, with many Indian companies utilizing it to address labor or skill shortages. Recent IBM research indicates that early adopters are leading the way, with 74% of Indian enterprises already working with AI. AI is being used to reduce manual or repetitive tasks, improve recruiting and human resources, and train employees. However, there is still a significant opportunity to accelerate AI adoption, as many businesses are hesitant to deploy AI at scale. AI has had positive impacts on various sectors, including job creation, innovation, efficiency, productivity, skill development, and economic growth. It has led to increased demand for skilled professionals in AI development, machine learning, and data science. AI has also spurred the growth of startups focusing on AI-driven solutions, creating entrepreneurial opportunities. It has the potential to automate repetitive operations, allowing human workers to concentrate on more complicated and creative activities. AI-driven analytics provide valuable insights, aiding businesses in making informed

decisions. However, AI has also led to job displacement, sectoral disruption, and a potential skill gap between the current workforce and AI-related jobs. Artificial intelligence may lead to economic inequality due to uneven distribution of benefits.

Skill gap in the Indian workforce up to 2025: Due to rapid technological advances and the adoption of artificial intelligence and other emerging technologies, the skill gap in the Indian workforce up to 2025 is a pressing concern. As the curtains rise on this AI-driven era, NASSCOM's projections indicate a breathtaking journey ahead. With the Indian AI industry aiming for the stars, a staggering USD 28.8 billion by 2025 is within reach. This growing trend at a CAGR of 45% is supported by AI's widespread use in industries such as healthcare, transportation, finance, retail, agriculture, and manufacturing. India thus emerges as having three times more relative AI skill penetration than the world's average, making it a frontrunner in the emerging sphere. India is one of the countries with greatly demanding AI skills with the expected talent shortage of 213,000 by the year 2022. Currently, there is the availability of 416,000 AI and data science workers in the country, and major positions such as an ML engineer, data scientist, DevOps engineer, and data architect have a 60% to 73% demand-supply gap.

Table 1: key areas where skill gaps are expected to be most pronounced

1.	Technical Skills	Artificial Intelligence
		Machine Learning
		Cybersecurity
		Data Science & Analytics
		Cloud Computing
2.	Soft Skills	Critical Thinking & Problem Solving
		Communication & Collaboration
3.	Digital Literacy	Basic Digital Skills
		Advanced Digital Skills
4.	Sector Specific Skills	Healthcare
		Manufacturing
		Agriculture
		Retail

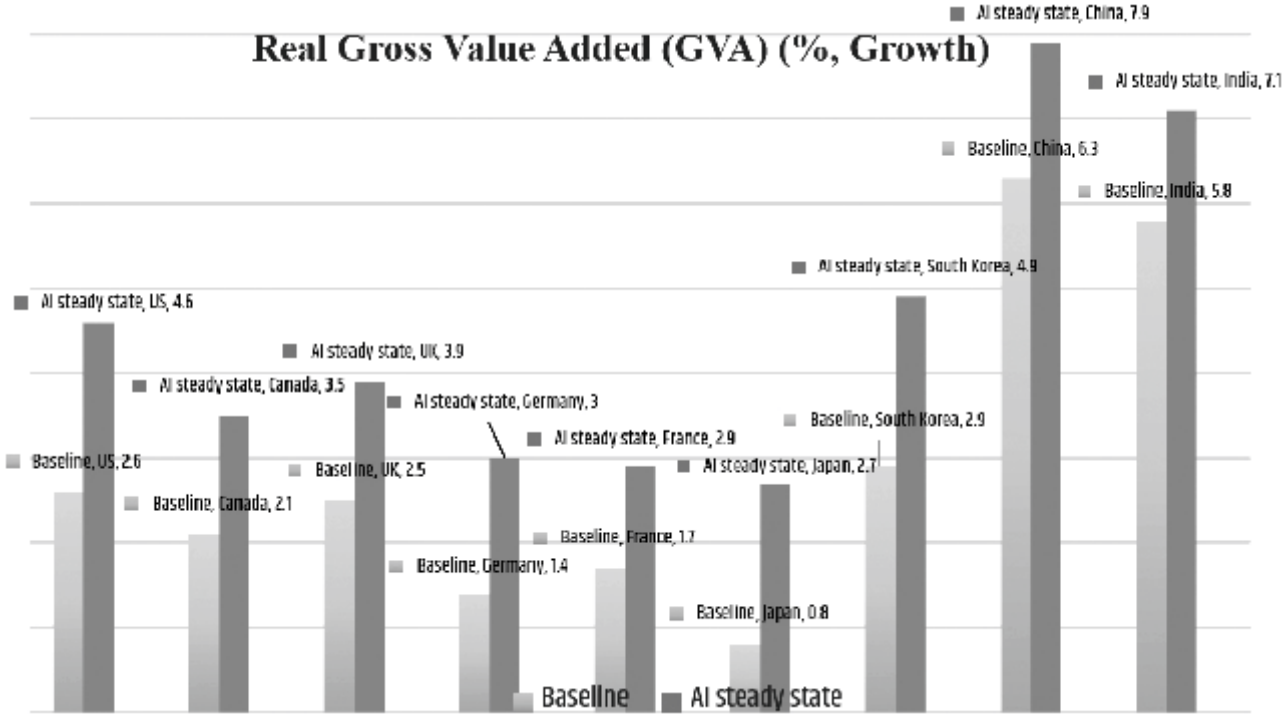
Table 2: Most in-demand skills in AI and AI-related job postings in India since December 2022

S.No.	Non-AI skills (People and Digital)	AI Skills
1.	Communication	Data Structures
2.	Analytical Skills	Machine Learning
3.	Sales	Natural Language Processing (NLP)

CURRENT STATUS OF ARTIFICIAL INTELLIGENCE IN INDIA

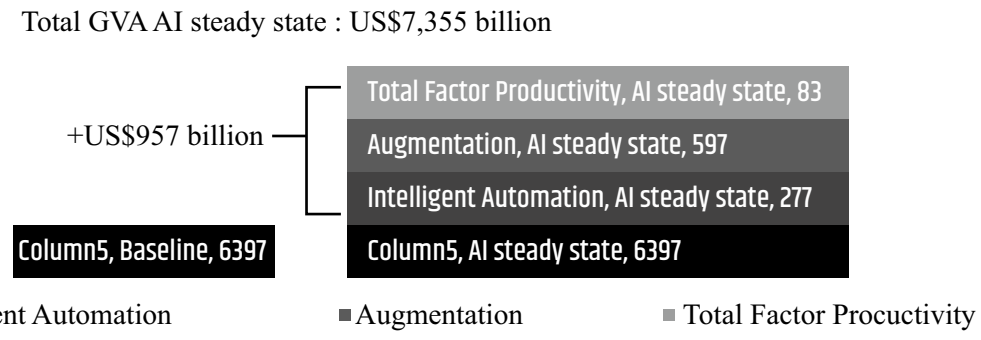
AI market Growth: The financial landscape is set to witness a seismic shift due to this rapidly evolving inclusion of AI across regions. By 2025, AI is predicted to inject up to $500 billion into India's GDP.AI has the potential to add up to an entire percentage point to the annual economic growth rates of the countries analysed. The use of AI is anticipated to boost India's annual growth rate by 1.3 percentage points by 2035, based on the assumption that intelligent machines and humans will work collaboratively to solve the nation's most challenging issues. A report by Accenture shows that AI-based technological advancements will contribute $ 957 billion to the Indian economy by 2035, proving that AI is a key technology in this area. AI has the potential to double its annual growth rates in terms of gross value added by 2035.

Figure 3. The economic impact of AI on selected G20 countries



Source: Accenture

Figure 4. India's GVA in 2035 (US$billion)



Source: Accenture

A recent NASSCOM survey predicts that the need for professionals would surpass one million by 2026.As a result of this surge, businesses have taken on a fundamentally different approach to how they do business and innovate. AI is the most innovative creation, and it is projected to have a significant influence on mankind's evolution. The worldwide AI market was roughly $59.67 billion in 2021, and it is expected to expand at a CAGR of 39.4% reach $422.37 billion by 2028. While India's AI industry is predicted to grow at a 20.2% CAGR to $7.8 billion by 2025, from $3.1 billion in 2020.

AI EDUCATION AND TRAINING PROGRAM

Government Initiatives Driving AI skill development and education: The government has allocated more than Rs500 crore for the Rs10,738 crore India AI program to improve the nation's AI infrastructure. The government has demonstrated its commitment to promoting AI research and applications with the recent grant of Rs551.75 crore for the India AI Mission in the union budget 2024-25.In order to fill the skills gap, educational institutions and the government are launching initiatives to address the problem. Here are some key government initiatives:

- National Strategy for Artificial Intelligence #AIforAll
- MeitY's programme on artificial intelligence (NPAI) "India AI"
- Youth for Unnati and Vikas with AI (YUVAi)
- US-India AI Initiatives
- Applied AI Research Centre in Telangana
- MCA 3.0 Portal
- Responsible AI for Youth
- Future Skills Prime

Top AI institutes & centres in India: Several reputed institutes are providing Artificial Intelligence Courses both offline and online. The course curriculum is designed in combination with professional trainers and matched to the latest technology, software, and tools for efficient and accurate performance. In the field of Artificial Intelligence, courses in Artificial Intelligence and Machine Learning can be extremely helpful for gaining a deeper understanding and upgrading technical skills. Here are some top AI institutes or centres in India:

- Henry Harvin
- Coursera
- edX
- upGrad
- Udemy
- Indian Institute of Technology Bombay
- BITS Pilani
- IIT Hyderabad & Talent Sprint
- Centre for Artificial Intelligence IIT Kharagpur
- Centre for Artificial Intelligence and Robotics (CAIR), DRDO
- Robert Bosch Centre for Data Science and Artificial Intelligence, IITM
- The Artificial Intelligence Group (AI@IISc)
- Department of AI @ IITH
- Academia-industry Collaboration on Artificial Intelligence

CONCLUSION

The future of work in India is undergoing a transformation due to the rise of Artificial Intelligence (AI). This shift requires a paradigm shift in workforce skilling to harness the potential of emerging technologies. The integration of AI into various sectors promises efficiency and innovation, but also poses challenges in workforce readiness and skill adaptability. A multi-faceted approach to workforce development is needed, including revamping educational curricula, promoting continuous learning and upskilling programs, and fostering a collaborative ecosystem. Inclusive skilling initiatives are also needed to address the digital divide and build a resilient workforce capable of driving sustainable economic growth. By investing in education, fostering industry-academia collaboration, and ensuring inclusivity, India can mitigate risks associated with

technological disruption and position itself as a global leader in the AI-driven economy.

REFERENCES

1. Oluwaseyi, J., & Cena, J. (2024). Analyzing the Impact of Artificial Intelligence on Job. Statistics, 14(1), 150-155.
2. Rangarajan, R., & Rubasree, J. (2024). Up-skilling and Re-skilling: A Strategic Response to Changing Skill Demands. European Economic Letters (EEL), 14(1), 765-774.
3. Choudhary, S. (2024). Artificial Intelligence and Its Impact on Economic Growth. Shodh Sari-An International Multidisciplinary…, Query date: 2024-05-19 10: 55, 44.
4. Bodea, C. N., Paparic, M., Mogo, R. I., & Dasclu, M. I. (2024). Artificial intelligence adoption in the workplace and its impact on the upskilling and reskilling strategies. The AMFITEATRU ECONOMIC journal, 26(65), 126-126.
5. Cazzaniga, M., Jaumotte, M. F., Li, L., Melina, M. G., Panton, A. J., Pizzinelli, C., ... & Tavares, M. M. M. (2024). Gen-ai: Artificial intelligence and the future of work. International Monetary Fund.
6. George, A. S. (2024). Artificial Intelligence and the Future of Work: Job Shifting Not Job Loss. Partners Universal Innovative Research Publication, 2(2), 17-37.
7. Accenture. (n.d.). REWIRE FOR SUCCESS BOOSTING INDIA'S AIQ.
8. Aayog, N. (2018). National Strategy for Artificial Intelligence #AIFORALL.
9. https://www.forbesindia.com/blog/technology/shaping-indias-future-with-ai-skills-and-jobs/
10. https://www.ibef.org/research/case-study/future-of-data-science-and-ai-in-india
11. https://nationalskillsnetwork.in/artificial-intelligence-ai-government-of-indias-initiatives-in-boosting-skills-and-education/
12. https://pib.gov.in/PressReleasePage.aspxPRID=1811372#:~:text=Ministry%20of%20Electronics%20and%20IT,are%20as%20including%20Artificial%20Intelligence.
13. https://www.henryharvin.com/blog/artificial-intelligence-courses-in-india/
14. https://www.indiascienceandtechnology.gov.in/

WOODEN CRAFT INDUSTRY IN INDIA (A CASE STUDY OF VARANASI)

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Small Scale Industries in India creates the largest employment opportunities for the Indian populace, next only to Agriculture. It has been estimated that Rs. 20,000 of investment in fixed asset in the small scale generates employment for 6 persons and they can be used as an important tool to prevent concentration of economic power in the hands of few individuals. It also plays a major role in India's present export performance. About 60% of the Indian export is contributed by Small Scale Industries. Direct export from the Small Scale Industries account for nearly 40% of the total export. Besides, direct export, it is estimated that Small Scale Units contribute around 17% to export indirectly. This takes place through merchant exporters, trading houses and export houses. They may also be in the form of export orders from large units or the production of parts and component for use in finished exportable goods. It would surprise many, to know that non-traditional products account for more than 95% of the Small Scale Industry sector.

HANDICRAFT PRODUCTION:

The Small-Scale Industries in India covers a wide spectrum of industries categorized under Small, tiny and cottage segment ranging from small artisans/handicraft units to modern production units with significant investment. Handicrafts are mostly defined as "items made by hands, or with use of simple tools and are generally artistic or traditional in nature". They are also objects of utility and objects of decoration. For the development of these traditional and new crafts, assistance is given to the States on the advice of Handicraft Board.

The rich craft heritage is unique and diverse as its customs and tradition. Each part of the country has its own unique cultural ethos which is manifested in the handicraft of that particular region. Indian handicraft tradition are influenced by local topography, climate and socio-religious factor. The Handicraft sector provides employment to an estimated 71 lakh artisans of which 46% are female, 23% belong to scheduled caste and 13% to scheduled tribes. Indian craft tradition has no parallel in the world, in diversity as well as in technique and use of material. The craft tradition of India varies from region to region. These crafts not only cater to the day to day needs of the people but also used for decorative and religious purpose.

Wooden Handicraft of India is famous all over the world for their beauty and durability. The history of wooden handicraft of India can be traced to antiquity. Beside wooden furniture, the beautiful wood artifacts like photo frames, toys, dolls, sculpture, house-hold items etc, has a large International clientele. Indian wood craft is well renowned for its items like carved figurines, furniture and accessories, windows, doors, boxes, decorative pieces, utensils, beads etc. Each region and State, in India has its wood craft tradition that is exclusive to the geography, culture and people of the region. Starting from Kashmir to Rajasthan and Andhra Pradesh-each and every state in India, is a treasure house of wooden handicraft.

If we see State wise employment distribution, Uttar Pradesh, ranked 2nd with 11.2% and Tamil Nadu made the maximum contribution with 16%, which is followed by Maharashtra with 11%. Uttar Pradesh is well known for its wood-work and there is a large variety of wood used including sheesham, dudhi etc. Saharanpur, here, is known for its carving in hard sheesham and particularly for its famous vine leaf patterns. The range of design includes floral,

geometric and figurative decoration in addition to the traditional Anguri and Takai carving, jail, fretted ornamentation, brass copper and ivory inlay work. Manipuri, too, is famous for its wood work inlaid with brass wire or ivory or black sheesham and Varanasi is also known for its fine lacquered wooden toys and miniature utensils for children to play.

Varanasi has always been center of attraction/art from ancient time; wooden craft is one of them. In wooden articles, the artisans of Varanasi mostly make toys, deities and other decorative articles of simplest kind. It is one of the traditional industries of Varanasi. It's origin in Varanasi lies probably in Mughal times, in making toys and artistic articles to the Mughal nobility. It is said that wooden toy industry is more than 400 years old, which has been coming from generation to generation. This wooden craft industry is centralized in Khojwa of Varanasi city. There are approx. 1050/- small units involved in various work of this industry. It is one of the employment generation industries of the city. In this approximately 7000 people are employed directly or indirectly. It also helps in production process.

EXPORT

The annual production of this industry is about Rs. 3 crore and is mainly exported in France Germany, Britain and America etc. Here about 400 different types of toys are manufactured.

These toys are manufactured by two different ways- one is by carving and the other is by lathe work. Animals, birds and human faces are made through carving and lathe toys are mostly in round shape, in which children's toys are main as roller, roller board, boblets etc. But in the first half of the twentieth century, keeping to the tradition, the work at Varanasi seems to have been always restricted to lathe work, making vermillion boxes, brasses and decorative pieces of simplest kind. This work has never required a high degree of skill. There were always some craftsmen who carved images and toys by hand. These wooden articles are made from different types of wood and the raw materials of these come from close to Varanasi, wood from the forest of Sonebhadra, Banda, Chandauli, Mirzapur and the state of Madhya Pradesh and Bihar also. Previously, these beautiful and attractive wooden toys were made by "Koraiya"s wood. But the sudden blockage of the supply of this wood has made artisans to use Eucalyptus wood for making toys. These toys are marketed in local as well as in foreign markets too. Although, this industry is enjoying fame over the world, but the artisans of wooden craft are facing certain problems. Problems such as these having poor capital base and are also compelled to sell their product on credit basis to their clients which in turn impairs their resource availability.

The basic problem of this industry is to find difficulties in obtaining the wood and other raw materials at the right time and at right prices. The artisans of Varanasi also face the scarcity and irregular power supply, which hinders the regular flow of output. These people are also having poor marketing facility, technical knowledge and competition with other toys industries such as plastic, rubber and soft toy industry. There are certain problems in this industry but there are enormous opportunities in this due to various factors like less capital intensive, higher labour absorption and smaller gestation period. By its less capital intensive and high labour absorption, this wooden toy industry of Varanasi had made significant contributions to employment generation for the people of the city. This industry is ideally suited to build on the strengths of our traditional skills and knowledge by infusion of technologies, capital and innovative marketing practices. This is the opportune time to set up projects in wooden craft industry, indeed promising, given some safeguards. This expectation is based on an essential feature of the Indian Industry and demand structures.

The diversity in production system and demand structure will ensure long term co-existence of many layers of demand for these products. There will be flourishing and well-grounded markets for the same product, differentiated by quality, value added and sophistication. This characteristic of Indian economy will allow complementary existence for various wooden craft industry of the country. The promotional and protective polices of the government have ensured the presence of this sector in an astonishing range of products. The process of liberalization coupled with

Government support will therefore attract the infusion of just these things in the sector. In conclusion, it may be pointed out that the Small-Scale Sector in India occupies an important position in the industrial spectrum of the country. The Government has got to play a pivot role in solving the various problems faced by this sector. Though, this sector provides numerous benefits but it is facing some very critical problems. Strong actions must be taken to tackle the problems of this vital industry of the Economy. Govt. must pay particular attention to its development so that it grows in a challenging environment of India. This wooden craft industry has its share in the development of the country and the prosperity of masses. A more effective implementation of the Government policy is the need of the hour with a view to make this industry self-supporting and viable.

CONCLUSION

Wooden craft industry in India is increasing Fastly since long times. This industry makes various types of wooden goods like toys, kitchen wares etc. Varanasi is famous for wooden toys. The artisan sales toys and other commodities in India as well as in foreign countries. Prime Minister of our country Shri Narendra Modi has emphasized to develop toys industry of Varanasi as well as of whole India. As a result, the wooden industries have achieved financial and administrative support from government. Hence both its production and export increased and employment opportunity also enhanced.

REFERENCES

1. Srivastava, Pramod Kumar (2022), Toy Industry in India.
2. Mishra, S. K. and Puri, V. K. (2001), Indian Economy; Its Development Experience
3. Sherwani, Najeebuzzaman Khan (Mar 2007), Making SSI's Viable
4. Kumar, Nita (1986), The Artisans of Benaras : Popular, Culture and Identity.
5. Economic Survey 2006-07

ROLE OF INTEGRATED MARKETING COMMUNICATION IN MODERN INDIAN BUSINESS

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ABSTRACT

We might briefly define IMC as the planning and execution of all types of advertising like and promotion like messages selected for a brand, service, or company, in order to meet a common set of communication objectives, or more particularly, to support a single 'positioning'. We believe strongly that the key to IMC is planning and the ability is to deliver a consistent message.

The present paper torches upon the emergence of integrated marketing communications (IMC) that has significantly influenced thinking and acting among all types of companies and organizations facing the realities of competition in the present open economy. It has been proved as an efficient promotional tool to communicate more universally, clear and effectively. The paper put lights on various facets of Integrated Marketing Communication (IMC) especially in Indian Business Scenario. The challenges and scopes of IMC with the context of strategies, implementation, and audit have also been discussed.

Keywords: *Integrated Marketing, Social networking, Indian Business*

INTRODUCTION

Recently marketers have turned away from mass marketing and they have concentrated more on integrated marketing. Meanwhile advances in communications technology and the rapid growth of direct marketing may influence on the nature of marketing communications. Technology and the rapid growth of direct marketing may influence on the nature of marketing communications. Marketers who attempt to build relationship with different sectors and various markets have considered variety of methods and tools to increase sales by promoting and encouraging the development of policies. As a result, consumers have been exposed to different marketing communications. It involves the exchange of information between producer and client, it identifies essential customers' needs. Customers cannot differentiate between the sources of the messages as marketers. In terms of consumers advertising messages from various data channels are merged and the boundaries often disappear. Conflicting messages from various data sources are the causes of the different images that people have from the company and the different products will be distorted. in most cases, firms cannot merge or integrate different communication channels, thereby establishing heterogeneous communication with customers.

In today's ever changing "Nanosecond Culture" of social network, empowered customers and hyper competition, we need to be prepared to immediately implement holistic thinking for our marketing and communication strategy. With an increase in global competition, technological advances, and fast informed customers, it is important for businesses to make a powerful impact on target audiences and markets. Integrated Marketing Communication (IMC) is one of the most important communications trends adopted all over. It is one such step towards an integrated approach in achieving efficiency by synergy. The emergence of this concept has become one of the most significant examples of development in the marketing discipline. It has influenced thinking

and acting among companies but also authorities, state owned companies and political parties, all facing the realities of competition in open economy.

REVIEW OF LITERATURE

- Kotler, 2000- He explained that despite its ongoing growth and relevance in both academia and professional circles, IMC has never been more important than now in this fast paced dynamic, and ever -INCREASING ENVIRONMENT OF MARKETING AND COMMUNICATION.
- Taylor, 2010 and Vernoccio and ceccotti, 2015 - Both the researcher discussed about the IMC Community and their research for enhance theoretical development.
- Porcu et al (2019) Define IMC as the stakeholder centered interactive process of cross functional planning and alignment of organizational, analytical and communication process that per unit continuous discussion by conveying transparent and consistent messages via all media in order to foster long term profitable relation that create value.
- In early theoretical approaches (Raman and naik 2004, Schultz, 1992,1996) IMC is evidently confined to mixes and planning of marketing communication, whereas recent research suggests otherwise.
- Duncan and Moriarty 1998 schultz 1996 -Care for IMC from a workplace perspective and speak of managing the standard promoting Communication Combination to process generalized data with all communication tools for marketers in an integrated fashion instead of separate practice.

OBJECTIVE OF STUDY

1. To analyze the evaluation of effectiveness of Marketing Communication by using integrated Marketing Communication.
2. Can it (IMC) be helpful to increase customer satisfaction and convert them into permanent customers?

MATERIAL AND METHOD

This study is a descriptive and analytic applied research . The survey technique was implemented for collecting the necessary data from the respondents. The study has been developed for an general rule over Indian market.

To assess the importance of IMC in the marketing domain the present research aims to explore the existing research related to the field of marketing communications, and to integrated the marketing communication mix towards achieving better marketing strategies for the companies, in promoting their products and services efficiently. For this systematic review was conducted. In first, the process of systematic collection, assessment and integration of existing work from the case of review papers.

THE CONCEPT OF IMC

As a concept IMC has become well known on an international scale during the 1990s.Thus IMC is a term whose widespread use is comparatively recent, a fact, which might explain why there not yet is a common understanding of its real meaning and the lack of a generally accepted definition. Some 20 years ago academics and professionals discussed theory and practice of business communication but without considering the idea of integration as a realistic approach to reach a competitive strategic position for the company. Some early attempts in the beginning of the 1980s initiated academic interest and articles appeared in the academic literature (Dyer, 1982, Coulson-Thomas, 1983). From the beginning of the 1990s IMC become a real hot topic in the field of marketing (Caywood et al. 1991, Miller and Rose, 1994, Kitchen and Schultz, 1999). Few years back, major portion of marketing budgets went to advertising, but now the scene has changed, it is allocated into various activities such as tide promotions, consumer promotions, branding, PR and advertising. The allocation of communication budgets away from mass media and traditional advertising has obviously promoted IMC in recognition and importance for effective marketing. The emergence of IT has fundamentally affected the media practices, contributed to an extensive deregulation of markets and individualized patterns of consumption and increased the segmentation of consumer tastes/ preferences. The key has been 'value' and several

combinations of methods are used, all aiming to raise benefits and reduce costs.

Smith el al (1999) have defined IMC as "The strategic analysis, choice, implementation and control of all elements of marketing communication which efficiently (best use of resources), economically (minimum costs) and effectively (maximum results) influence transactions between an organization and its existing and potential customers and clients. "The American Association of Advertising Agencies defines IMC" as "a concept that recognizes the added value of a comprehensive plan that evaluates the strategic roles of a variety of communication disciplines and combines these disciplines to provide clarity, consistency and maximum communication impact."

Integrated marketing communication is integration of all marketing tools, approaches, and resources within a company which maximizes impact on consumer mind and which result into maximum profit at minimum cost. Generally marketing starts from "Marketing Mix" and also includes internet marketing, sponsorship marketing, direct marketing, database marketing and public relations. And integration of all these promotional tools along with other components of marketing mix to gain edge over competitor by knowing the right touch points using to reach highest level of consumer satisfaction is referred as integrated Marketing Communication. Using outside in thing, it is a data driven approach that focuses on indentifying consumer insights and developing a strategy with the right (online and offline combination) channels to forge a stronger brand consumer relationship. The objectives of any marketing communication process are to create brand awareness, deliver information, educate the market, and advance a positive image of the project brand. In simpler terms, "IMC refers to speaking with one voice, eliciting a response". There for, "IMC is a return to building brand loyalty by building brands that deserve loyalty."

THE FIVE -STEP STRATEGIC PLANNING PROCESS

Strategic planning for IMC involves a five -step process. First, one must identify and select the appropriate target audience, next, determine how they make brand decisions, establish how the brand will be positioned within its marketing communication, and select a benefit to support that positioning. then set the communication strategy to optimize delivery and processing of the message.

Step one: Identify and select the appropriate target audience.

Step two: Determine how that target audience makes product and brand decisions.

Step three: Establish how the brand will be positioned within its marketing communication and select a benefit to support that position.

Step four: Set communication objectives.

Step five: Identify appropriate media options consistent with the communication objectives to optimize message delivery and the processing of the message.

INTEGRATED MARKETING COMMUNICATION IN INDIAN BUSINESS CONTEXT:

India is one of the most favourite markets on the globe. The growing purchasing power of India's huge middle class makes it attractive. However, the customer base in India is extremely fragmented. The huge geographic expense of the country has resulted in an inconsistent distribution system that is radically different from other countries. Also the cultural diversity of consumer, differences in their tastes, habits, and requirements that make it more complex task to market their goods in a streamlined and consistent manner. The concept of IMC with focused and massive marketing is fairly new to the Indian companies who have traditionally experienced a mixed economy and trade restrictions back home. In a protected economy, the companies had faced restricted competition and consequently did not realize the importance of targeted and more focused marketing. In the absence of well-developed department for individual elements of marketing communications, a quasi integrated approach was in practice among various departments in India companies.

The idea of IMC still manifests itself in a variety of local and situational ways for marketers. It is necessary to examine the cultural and social factors with demographic influences, keeping in perspective a pertinent analogy of "GO GLOBAL" with the concept of IMC.

IMC is a major strategic concept that is as evolutionary and discursive in Indian context. A strong need is compulsory here to explore the concept and phenomena of IMC directly in the real world of communication. With the change in communication practices and technologies, integration in marketing techniques is inevitable for Indian companies to survive in this multi-national and multicultural world emerging globally. Flow of communication is easy and open and our ability to adapt to these changes has made it a very enthralling and promising place for the global market. The purpose of integrated marketing communications strategy is to work toward the common goal of customer focused marketing. The Indian marketplace consists of an increasingly complex arena of competitors within a rapidly changing environment. Businesses are now getting interest-based operations, portraying a charming picture of sophisticated and cluttered market. It is attempting to speak with clear voice about the natures of their operations and the benefits associated with the brands and products. Numbers and variety of media is bombarding potential customers with messages, it is vital to have clear and consistent communication in the clutter. Response to this apparently amorphous marketing environment has led many Indian organizations to desirable integration of their communications efforts under the umbrella of this strategic market communications function. Effective marketing departments and advertising agencies are developing pipelines of new, talented innovations, media buyers, promotions managers, database web masters and others in order to succeed in the long term. Employee performance attitudes reflect morale within the marketing department and also relations with other departments and groups. The effect of IMC plans are building bridges with other internal departments and marketing everyone aware of the thrust and theme of the program.

The Indian companies are identifying the target niches on social and attitudinal behaviour, and offering common product across different demographics and also formulating the message accordingly. Internet marketing is picking up pace in India with fast technological advancement. Consumption and shopping patterns are changing. Online shopping, credit card usages are being accepted. Professionalism is increasing. Recent liberalization policies have increased competition and enforced new marketing practices in India, the local environment and local markets dictate the need for specialized and integrated approaches.

MAJOR REASONS FOR THE GROWING IMPORTANCE OF IMC IN INDIA

Several reasons have caused IMC to develop into a primary strategy for marketers in India. Some of them are given below:-

1. Market is now having a rural - urban mix shape.
2. Occupational diversity (Agriculture to other skills).
3. Awareness is spreading fast.
4. Indian consumer is being smarter.
5. Heterogeneous Demographic Traits.
6. Diversity in economic conditions.
7. Media advertising is shifting to multiple form of communication focusing at target centered niche media.
8. Market is shaping from a manufacturer-dominated market to a retailer -dominated, consumer-controlled market.
9. Technology is getting updated rapidly. Huge opportunities are available to develop with market.
10. Manpower is getting performance -based compensation from traditional compensation, sales and profit margins are increasing.

KEY CHALLENGES FOR IMC IN INDIA:

However, significant challenges to achieve optimal IMC performance are still in existence and acting as key barriers in way of effective IMC function in the

country. Following are the few of them:

- Lack of strategic consistency.
- Lack of needed skill sets among marketing staff. Scarcity of creativity and innovation.
- Insufficient marketing budget. Lack of a standard measurement process.
- Lack of technology advancement support.
- Ambiguity on the issue.
- Complex culture and social values.

DISCUSSION AND CONCLUSION

The emergence of integrated marketing communication (IMC) has become a significant example of development in India marketing discipline. It has influenced thinking and acting among all types of companies and organizations facing the realities of competition in the present open economy. It is the judicious and efficient use of the product promotional tools so that a universal, clear and effective promotional message is communicated amongst the target audience. Integrated Marketing Communication (IMC) is more than coordination of a company's outgoing message between different media and the consistency of the message throughout. This also facilitates in ascertaining the effectiveness of the overall marketing effort to evaluation of brand messages. It is an aggressive marketing plan that captures and uses an extensive amount of customer information in setting and tracking marketing strategy. As the IMC strategy should be based on situation analysis and SWOT analysis, a periodical implementation would be significant. The need of the audit of the IMC process should be well understood and measurement and evaluation of the effectiveness should be taken care of. The primary goal of affecting the perception of value and behavior through IMC has to be checked up carefully. Indian consumption pattern are changing readily, technical advancements are fast, development and diffusion of IMC program should closely be associated with these changes. Objectives and strategies must be elastic enough to mould accordingly. In order to reach a better result, the marketers need to develop marketing integration as occurring different levels and degree of various functions. The most important and fundamental level should be of vertical integration of objectives and activities. Within their own organizations, marketers should recognize the importance of creating important position with clear responsibility at different level on performance and productivity basis. At last but not the least the key is "value" and all the efforts must be in the level -headed way to deliver in order to reduce the cost and increase the benefits. Integrated Marketing Communication can perform and lead to way to reap the benefit if exercise as a unit in order to attain the common objective of delivering the value to customer.

REFERENCES

1. Caywood, D, Schultz, D.E, Wang, P(1991)," Integrated marketing communication : a survey of national goods advertisement", unpublished report, Medill School of Journalism, Northwestern University, june.
2. Coulson- Thomas, C.J (1983), Marketing Communication, Butterworth -Heineman.
3. Dyer. G (1982), Advertising as Communication, Routledge, London.
4. Kitchen, P.j, Schultz, D.E.(1999), a MULTI-country comparison of the for IMC", JOURNAL OF Advertising Research, Vol.39, No.1, pp.17-21.
5. Miller, D., Rose, P.B.(1994),"Integrated communications :a lood at reality", Public Relations Quarterly, Vol.39, No.1.pp.13.
6. Smith, P.R.K, Berry, C., Pulford, A.(1999) Strategic Marketing Communications, Kogan Page, London.

NEW EDUCATION POLICY 2020: CURRENT ISSUES AND FUTURE OF HIGHER EDUCATION

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ABSTRACT

The New Education Policy 2020 (NEP 2020), unveiled on July 29, 2020, represents India's first education policy of the twenty-first century. Aimed at modernizing and transforming India's educational landscape, NEP 2020 places a significant emphasis on higher education, recognizing its crucial role in fostering human development and national progress. The policy advocates for substantial reforms across all levels of education-primary, secondary, and postsecondary-by focusing on five key pillars: accessibility, affordability, equity, quality, and accountability. It outlines a comprehensive framework to revamp India's educational system, ensuring it meets the needs of a dynamic society where continuous learning is essential for social and professional advancement.

This study examines the impact of NEP 2020 on India's higher education system, highlighting the challenges and issues it currently faces. It uses secondary data from diverse sources, including newspapers, books, reports, journals, and websites, analyzed to align with the study's objectives. The policy aims to promote equitable and globally benchmarked educational standards, enhance enrolment, and strengthen teacher training programs, curriculum, pedagogy, and examination processes. The ultimate goal is to prepare the next generation for success in an emerging digital economy and to establish India as a global education hub by 2030.

NEP 2020 is a progressive document designed to address future challenges with a comprehensive understanding of the current socioeconomic landscape. If implemented effectively, it could significantly transform India's higher education sector, contributing to the nation's development by fostering specialized knowledge and skills. It aligns with the United Nations Sustainable Development Goals 2030, which aim to ensure inclusive, equitable, and quality education for all, along with lifelong learning opportunities that lead to productive employment and suitable careers.

Keywords: *New Education Policy, Transforming India, Education System, Employment.*

OBJECTIVES OF THE STUDY

The investigators have conducted his study based on the following objectives:

- To draw attention to the important modifications made to the higher education system in accordance with NEP 2020.
- To examine the current problems and obstacles facing the current system of higher education.
- To investigate the effects on higher education of the New Education Policy 2020.

METHODOLOGY

The study's data were secondary, and its descriptive methodology was founded on qualitative research. Since the study primarily employed theoretical data, a content analysis of the available materials was carried out. As a result, the researchers have gathered information from a range of publications, including books, journals, reports, magazines, websites, and newspapers.

DISCUSSION AND ANALYSIS

Notable Modifications to the System of Higher Education NEP 2020 states that after it is completely

implemented, the organizational structure of higher education will alter. A summary of some of the most important changes made in this area is as follows:

FOUR-YEAR UNDERGRADUATE PROGRAMME

There is currently a three-year curriculum for the undergraduate program. However, a four-year undergraduate degree will be available under the New Education Policy (2020).

- The first-year Certificate Program.
- Second year of the Advanced Diploma Programme
- Third-year bachelor's degree candidate.
- A bachelor's degree that includes a fourth-year research project.

SEVERAL WAYS TO ENTER AND EXIT

Multiple admission and current options are available for the four-year, multidisciplinary Bachelor's degree. For example, a student may choose to re-enroll in the program in the second year of their undergraduate degree if they only finish the first year before leaving the university, as opposed to starting over (Gupta & Gupta, 2021).

CREDIT BANK FOR ACADEMICS

One of the essential elements of the Credit-Based system outlined in New Education Policy 2020 is the Academic Bank of Credit. All of a student's grades or credits will be recorded against their name when they enroll in a program and are evaluated, just as a person's bank account records their credit and debit information. People can therefore simply keep an eye on and view their credits whenever they'd want (Gupta et al., 2021).

PROGRAM TERMINATION FOR M.PHIL.

The M.Phil. is now considered a higher education degree, following the completion of a master's degree. The New Education Policy has brought about a change in this condition. There will be no more M.Phil. programs provided.

A YEAR-LONG PROGRAM LEADING TO A MASTER'S DEGREE

Students can get their master's degree in just one year if they finish their undergraduate program in four years, which includes a year of research. However, applicants to the master's program may still be accepted if they complete their undergraduate degree in three years, even though they did not finish their last year of research. But it will only take them two years to finish their master's degree (Kumar, 2021).

THE MAXIMUM AMOUNT THAT PRIVATE INSTITUTIONS CAN CHARGE

Many Indian universities charge exorbitant tuition in order to offer higher education. As a result, many students drop out or require financial assistance to continue their studies. Therefore, the government-imposed CAP on the costs for private enrollment in order to increase enrollment to 50% by 2035.

- Current problems and obstacles in India's current higher education system
- Higher education serves a crucial role that needs to be taken into account. India's higher education system thus addresses a wide range of problems. A number of these issues are discussed below.
- Enrollment: Compared to developed and significant emerging countries, India's Gross Enrollment Ratio (GER) in higher education is comparatively low at just 25.2% (Kakodkar, 2022).
- Quality: Because of its subpar educational system, India's higher education system suffers from rote learning, a lack of employability, and skill development.
- Inadequate Infrastructure: The lack of suitable infrastructure presents further

NEW EDUCATION POLICY 2020'S EFFECTS ON HIGHER EDUCATION

To allow for the success of higher education and to give it new life, the regulatory framework needs to be completely redesigned. The regulatory structure pertaining to higher education guarantees that distinct, independent, and empowered entities will execute the diverse responsibilities of oversight, authorization, funding, and establishing academic standards. Establishing checks and balances inside the system depends on this. to guarantee that the four institutional organizations carrying out these essential duties

function independently while working together to accomplish their common goals. The Higher Education Commission of India (HECI) would oversee these organizations once they were founded as independent verticals (Das, 2023).

The second vertical of HECI (NAC) will be the National Accreditation Council, a "meta-accrediting organisation". A sufficient number of institutions accountable for functioning as acknowledged creditors would be supplied by NAC (Kalyani, 2020). The Higher Education Grants Council (HEGC), the third body under HECI, will oversee funding and financial matters for higher education in a transparent manner. HEGC would disburse funding for the establishment of new priority areas and scholarships.

INTERNATIONALIZATION AT HOME

Additionally, NEP 2020 makes it possible for foreign faculties and universities to return to Asian nations, which puts pressure on regional institutions to improve the caliber of education they offer. The Indian education sector is expanding rapidly due to the Potential to facilitate the establishment of foreign universities within the country. With more than 900 universities and 40.000 colleges, the Asian nation has one of the largest networks of higher education systems in the world. However, as compared to other BRICS countries like China (51%), Brazil (50%) and other countries in the region, the GER (Gross Entering Ratio) of Asian countries in education is just 26.3%, which is much lower. Comparing it to nations in North America and Europe, where the GER may exceed 80%, it is also noticeably lower. Asian nations should make significant strides in the area of international education in order to create a new economic system built on information resources rather than natural resources. It has been reported that in order to accommodate a large increase in students, Asian countries may require an additional 1,500 higher education institutions by 2030 (Das, 2020).

To boost capital investment in the education sector, the Indian government must promote FDI (Foreign Direct Investments) and open the ECB (External Commercial Borrowing) channel. The ministry works to enhance India's standing as a center for education because over seven lakh Indian students are already enrolled in programs abroad. The goal of this program is to significantly lower the amount of human capital that leaves the country in search of study and work possibilities by allowing foreign colleges to continue operating locally and offering the best education at a significantly lower cost. Many worldwide studies claim that cross-border education boosts the economy and increases students' awareness of the world, cultural sensitivity, and combat. Through international cooperation, educational institutions can further refine their curricula to align with global pedagogy and provide students with an extensive selection of specializations and topics to choose from. (Gupta, 2020).

TOWARDS A MORE HOLISTIC AND MULTIDISCIPLINARY EDUCATION

The intellectual, moral, social, physical, and emotional aspects of a person's growth would all be included in an all-encompassing, multidisciplinary education. Even engineering schools, such as the Indian Institutes of Technology, would shift to an all-encompassing, multidisciplinary curriculum that prioritizes the humanities and arts. Students majoring in the arts and humanities would strive to learn more science in addition to more vocational and soft skill subjects. To accomplish such a complete and multidisciplinary education, credit-based courses and projects in environmental education, value-based education, and community participation and service should be included in the curriculum of all HEIS. There will be numerous possibilities to graduate with the required qualifications over the three or four years it would take to finish the undergraduate degree (Yadav & Yadav, 2023). Conversely, the 4-year multidisciplinary bachelor's program ought to be the suggested option. In order to help with the digital storage of academic results, the Indian government will also establish an academic bank of credit. The schools will find it considerably simpler to grant credit toward a student's degree as a result. Creating an Academic Bank of Credit (ABC) is a sound idea for preserving the academic credits that students obtain from taking courses at various respectable higher education institutions (Nithish, 2023). Credits can be

transferred if an individual decides to transfer colleges.

OPTIMAL LEARNING ENVIRONMENTS AND SUPPORT FOR STUDENTS

A top-notch education is built on a foundation of curriculum, pedagogy, continuous assessment, and student support. Institutions and driven instructors will create curricula and methodology, and continuous formative assessment will be used to further the goals of each program, guaranteeing that every student has an exciting and engaging learning experience. All assessment procedures, including those leading to ultimate certification, should be decided by the HEI. The Choice-Based Credit System (CBCS) will undergo modifications to promote flexibility and creativity (Govinda, 2020).

Furthermore, every institution will incorporate all of its academic plans-from improving the curriculum to enhancing how well students engage in the classroom-into a complete Institutional Development Plan (IDP). Teachers would possess the abilities and know-how required to engage with students in the roles of advisors, mentors, and instructors. However, in order for students from low-income families to make a successful transition to higher education, they require support and encouragement. As a result, academic resources and financing would have to be allocated to universities and colleges in order for them to successfully build first-rate support centers (Panditrao & Panditrao, 2020; Das & Barman, 2023).

MOTIVATED, ENERGIES AND CAPABLE FACULTY

The caliber and commitment of a faculty member are essential to the success of an institution of higher learning. There should be opportunities for professional development available to the teachers. Academic staffs who disregard basic expectations will be held accountable. HEIS would have transparent, well-defined, independently determined hiring procedures for faculty (Batra, 2020).

THE STRUCTURE LENGTHS OF DEGREE PROGRAMMES

Within the context of the National Education Policy 2020 theme, every college degree at any school lasts three or four years. A degree after three years, a certificate for those students, and a certificate after two years may be required of any institution. A year of education in any chosen profession or career path is completed by United Nations agencies. A tutorial Bank of Credit will be built with assistance from the government of an Asian nation in order to electronically save the academic records. As a result, the establishments might start counting tip credit and include it in the degree of code. This could be beneficial for those who may have to leave the course in the middle. Students will be able to resume where they left off in the future, even if they were to start the course over from scratch. NEP 2020 states that educational institutions are free to begin postgraduate programs; nonetheless, there may be a planning problem with PG Degree for College Students in One Year The United Nations agency offers two-year postgraduate degrees and four-year undergraduate degrees to college students. A three-year UG degree has been completed by United Nations agency (Saxena, 2020).

STUDENT FINANCIAL ASSISTANCE

Students who receive financial and economic support may be able to accomplish their goals. In this context, NEP 2020 has proposed the following recommendations:

- To ensure that no student is denied the chance to continue higher education, HEIs should offer financial aid to deserving students (Gupta, 2020).
- The "National Scholarship Portal" will be expanded to cover stipends, board, and accommodation for students attending publicly supported universities in order to guarantee financial help (Banerjee et al., 2021).

ACCESS EQUALITY

Gaining admission to a prestigious university opens doors to opportunities that could break through vicious cycles of poverty and benefit local communities. Making a platform for universal access to high-quality higher education available must therefore be one of the top goals. By 2020, every student will have equal access to a top-notch education, with a concentration on socioeconomically disadvantaged groups (SEDGs) (Majhi, 2021).

EVALUATION SYSTEM

To guarantee that every student has an exciting and engaging learning experience, the curriculum and pedagogy can be decided by the institutions and faculty. Additionally, any review programs leading to final certification require approval from the HEI. The goal of the overhaul of the Choice-Based Credit System (CBCS) is to offer adaptability and modification. High-stakes tests will be replaced with a more consistent and comprehensive evaluation procedure (Banerjee et al., 2021).

VOCATIONAL EDUCATION

There is a perception that vocational education is inferior to general education and intended primarily for pupils who cannot succeed. This un favourable perception heavily in fluencies the decisions that students make. That is a significant issue thus, the best approach to handle it is to reconsider how students will be provided with vocational education in the future (Wankhade, 2021).

RESEARCH AND INNOVATION IN HIGHER EDUCATION

One of NEP 2020's key goals is to encourage significant expenditures in research and development from both the public and private sectors. This will encourage originality and creative thought. Strong industry commitment and close academic interaction are prerequisites for industry-led up skilling, re-skilling, and killing. To fully benefit from "Intellectual Property Rights (IPR)" and their protection, it is also imperative to acquire the abilities required to advance awareness of these rights (Banerjee et al., 2021).

THE NEW EDUCATION TECHNOLOGY FORUM (NETF)

The NETF that NEP 2020 aims to establish is a positive move. If high-quality Ed-tech solutions were hosted across all delivery dimensions for teaching and learning, higher education institutions would be able to react quickly. The emphasis should be on adopting firewalls, Intrusion Detection Systems (IDS), and adhering to cyber security standards in addition to hosting local Ed Tech products on "open-source development platforms" with integrated cyber security resilience to assure "privacy & security" and protect against external threats and vulnerabilities. Every student's "personal privacy" will be safeguarded in this way (Kumar, 2020). The current study's empirical evidence strongly suggests a relationship between optimism and both mental and physical health. People that are optimistic tend to be less dissatisfied with their lives on a physical and mental level.

CONCLUSION

An important factor in shaping a country's economy, social standing, degree of technological adoption, and healthy human behavior is higher education. Raising the Gross Enrollment Ratio (GER) is the duty of the nation's education department in order to provide access to higher education for all residents. In order to achieve this goal, the National Education Policy of 2020 is putting innovative policies into place to improve the supply, affordability, and quality of higher education. It also opens up the higher education sector to the private sector and enforces stringent quality controls across all higher education institutions (Aithal & Aithal, 2020). India's higher education system is positively and sustainably impacted by the National Education Policy.

It is commendable that the government has allowed foreign colleges to open campuses in India. Students would be able to receive an excellent education as a result. The creation of interdisciplinary institutions would lead to a renewed focus on all fields, including the humanities and arts. With this style of education, children may learn and grow in many areas. Thus, students would have a solid foundation in knowledge (Das & Barman, 2021). Modernising Indian higher education is the aim of NEP 2020. The NEP 2020 addresses the demand for specialized training across a range of industries, including artificial intelligence and agriculture. India must get ready for what lies ahead. Many young aspirant students now have the opportunity to acquire the necessary skill set thanks to NEP 2020. A significant turning point for higher education is the NEP 2020. Only when it is implemented effectively and within certain bounds will it be revolutionary.

LIMITATIONS OF THE STUDY

Many limitations have been identified during this investigation because there aren't many examples of research that address the influence of higher education in relation to NEP 2020. The fact that the NEP 2020 was not implemented and that the review's parameters were limited to searching for already published articles in the databases may be the source of this limitation. Furthermore, it should be mentioned that the researcher solely chose descriptive secondary data.

REFERENCES

- In 2019, Aithal, P.S. and Aithal, S. An examination of higher education in the 2019 Indian National Education Policy proposal and the obstacles to its implementation. International Journal of Management and Applied Engineering Letters, 1-35.2581.7000.0039; https://doi.org/10.47992/ijaeml.
- In 2020, Aithal, P.S. and Aithal, S. An examination of the Indian National Education Policy 2020 with an eye towards accomplishing its goals. International Journal of Technology, Social Sciences, and Management, 19-41. 10.47992/ijmts.2581.6012.0102 can be accessed here.
- In 2021, Banerjee, N., Das, A., and Ghosh, S. A critical critique of the 2020 National Education Policy. Perspectives on Quality, 13(3), 406-420.
- Batra, P. (2020). Is the Constitutional Education Agenda Being Undermined by NEP 2020? 50(4) Social Change, 594-598. the following doi:10.1778/0049085720958809
- Ananda Chandra (2021). The 2020 National Education Policy offers a critically examined range of options for higher education. 9(10), 1253-1258, International Journal for Research in Applied Science and Engineering Technology. There are 536. https://doi.org/10.22214/ijraset.2021.38
- Das, A.K. (2020). recognizing the shifting views on Indian higher education. In India's Higher Education Future (pp. 226-228). es.9.2.28 at https://doi.org/10.5530/jscir
- Barman, A., and Das, K. (2021). Benefits of workplace skills in management education research: a review triangulation to assess the applicability of NEP-2020 (India). EDUCATION AND PSYCHOLOGY, 58(5), 2271-2308. on.net/\/psychologyandeducati
- Das, P. (2022). Information and communication technology (ICT) plays a key role in putting the new educational system into practice, according to National Education Policy 2020. National Education Policy 2020: A Paradigm Shift in the Indian Education System, edited by A. S. B. Ishmi Rekha Handique Konwar, pp. 131-141. Publishers EPH, India. The doi: /0.5281/zenodo.8332349 has been accessed.
- Das, P. (2023). The National Education Policy-2020 with relation to teacher education. This link points to a 10.5281/zenodo.8332390.
- Barman, P., and Das, P. (2023). Ideal Academic Setting for Postsecondary Education Students in the Context of National Education Policy-2020: An Analysis. doi.org/10.5281/zenodo.8332322, as applicable
- Barman, P., and Das, P. (2023). Does ICT Help Education Aim for Sustainable Development? A synopsis. 4(7), 544-548 in International Journal of Research Publication and Reviews. This link points to a 10.5281/zenodo.8332286.
- M.M. Goel (2020). Views on higher education are reflected in the New Education Policy 2020. 9(2) Voice of Research, 14-16. Here is the link: http://www.voiceofresearch.org/Doc/Sep-2020/Sep-2020_3.pdf
- Govinda, R. An analysis of NEP 2020. 50(4) Social Change, 603-607. 10.1177/0049085720958804 can be found at this link.
- Gupta, B. (2020). Strategies for promoting and sustaining autonomy in higher education institutions in the context of National Education Policy 2020. International Journal of Educational Research and Studies, 2(1), 23-27.
- Gupta, P.B., & Gupta, B.L. (2021). Strategic mentoring programme for higher education institutions in the context of National Education

Policy 2020. University News, Association of Indian Universities, 22, 8-16.

- Gupta, P.B., Dubey, P., Dave, T., & Gupta, B.L. (2021). Reforms oriented strategic human resource management in higher education institutions in the context of NEP 2020. National Conference on Innovations in Technical Education, November, 1-11.
- Inamdar, S., & Parveen, S. (2020). The National Education Policy (NEP) 2020- Galvanising the rusting higher education in India. Vidyawarta Interdisciplinary Multilingual Peer Reviewed Journal, September(9).
- Kakodkar,P.(2022).Future Higher Education. Journal of Scientific Dentistry,12(1).https:// doi.org/10.1177/23476311211063698
- Kalyani, P. (2020). An Empirical Study on NEP 2020 [National Education Policy] with Special Reference to the Future of Indian Education System and Its effects on the Stakeholders. Journal of Management Engineering and Information Technology (JMEIT), 7(October), 2394-8124. https://doi.org/10.5281/zenodo.4159546
- Kumar, A. (2021). New education policy (NEP) 2020: A roadmap for India 2.0. In W. Advances in Global Education and Research, James, C. Cobanoglu, and M. Cavusoglu (Eds.), Vol. 4, pp. 1-17. M3 Publishing, University of South Florida (USF). 10.5038/9781955833042 is the URL at https://doi.org/https://www.doi.org/
- D. Kumar (2020). A Comprehensive Examination and a Preview of the New Education Policy - 2020. Scientific and Engineering Research International, 11(10), 248-253. The URL is 10.26703/jct.v16i2-1.
- J.M. Kumar (2020). What is the impact of the National Education Policy on higher education in India 37(4), 327-328, in the IETE Technical Review (Indian Institute of Electronics and Telecommunication Engineers). 10.1080/ 02564602.2020.1806491 can be found here.
- Majjhi, R. (2021). The New Education Policy 2020's effects on Indian legal education. Special Edition for the National Conference on "The Effect of 2020 Education Policy on Higher Education" (pages 20-24). Shodh Samagam's website

WEB-REFERENCES

- Education (n.d.) Retrieved march 9, 2023, from https://www.education.gov.in/sites/upload_files/ mhrd/files/NEP_Final_English.pdf
- Highlights: NEP will play role in reducing gap between research and education in India: PM modi.(2020,August07). Retrieved march 9, 2023, from https://www.hindustantimes.com/india-news/pm-modi-s-address-at-conclave-on-transformational-reforms-in- higher-education-under-national-education-policy-highlights/ story-dehOW8q8ZRrO NbbFSRjg0H.html
- Implications of the National Education Policy 2020 on higher education in India. (2020, August14). Retrieved march 9, 2023, fromhttps:// timesofindia.indiatimes.com/reade rsblog/ theaitics/implications-of-the-national-education
- Khan, D. (n.d.). NEP-2020: Restructuring institutions and quality of education. Retrieved march9,2023,fromhttps://www.greaterkashmir.com/amp/story/todays-paper/op-ed/nep-2020-restructuring-institutions-and-quality-of-education
- Ministry of Human Resource Development Government of India- niepid.nic.in.(n.d.). Retrieved march 9,2023,fromhttps:// niepid. nic.in/nep_2020.pdf
- NEP 2020: Impact on higher education. (n.d.). Retrieved march 9, 2023, fromhttp:// bweducation.businessworld.in/article/NEP-2020-Impact-on-Higher-Education-/07-08-2020-305999/
- Press Information Bureau (n.d.).Retrieved march 9,2023,from https://static.pib.gov.in/ Write ReadData/userfiles/NEP_Final_English_0.pdf

THE INTEGRATION OF ARTIFICIAL INTELLIGENCE (AI) AND ITS POWERED TECHNOLOGIES IN THE INDIAN EDUCATION SYSTEM: AN OVERVIEW

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ABSTRACT

The integration of Artificial Intelligence (AI) and its powered technologies in the Indian education system is reshaping traditional learning paradigms, offering innovative solutions to longstanding challenges. This paper explores the application of AI in various educational domains, including personalized learning, intelligent tutoring systems, automated grading, and administrative automation. In a country with diverse educational needs and a vast student population, AI-powered technologies promise to bridge gaps in accessibility, enhance the quality of education, and streamline administrative processes.

This study provides an overview of AI applications in Indian education, highlighting successful implementations and ongoing initiatives. The literature review identifies the potential benefits of AI, such as personalized learning experiences tailored to individual student needs, the efficient management of educational resources, and the democratization of education through increased accessibility. However, the research also underscores significant challenges, including the digital divide, data privacy concerns, and the need for teacher training in AI technologies.

The research gap identified in this study points to the limited understanding of AI's long-term impact on education quality and equity in India. Through a comprehensive analysis, this paper suggests that while AI holds great promise, its successful integration requires addressing these challenges through thoughtful policy-making, robust infrastructure development, and continuous professional development for educators.

The findings indicate that AI can significantly enhance the Indian education system, provided there is a concerted effort to overcome the associated challenges. Recommendations include fostering public-private partnerships, increasing investment in AI research and development, and creating inclusive policies that ensure all students benefit from AI-powered education. The conclusion emphasizes the need for a balanced approach to AI integration, one that maximizes benefits while mitigating potential risks.

Keywords: *Artificial Intelligence, Technologies, Innovative, Education Quality, Infrastructure Development*

INTRODUCTION

The rapid development of Artificial Intelligence (AI) is transforming many sectors worldwide, including education. In India, with its diverse and extensive educational landscape, AI offers significant opportunities to enhance the learning experience and address persistent challenges. By integrating AI, traditional teaching methods can be revolutionized, making education more personalized, efficient, and accessible. AI has the potential to address critical issues such as the equitable allocation of resources and the accessibility of quality education across different regions. However, this transformation also comes with challenges, such as ensuring equal access to AI technologies and addressing data privacy concerns. This article provides an overview of how AI is currently being applied in the Indian education

system, discusses the potential benefits and challenges associated with its use, and looks ahead to the future prospects of AI in education in India.

LITERATURE REVIEW

AI in education is a growing field of interest, with research highlighting its potential to personalize learning, automate administrative tasks, and enhance educational outcomes. According to recent studies, AI can provide personalized learning experiences tailored to individual student needs, helping them learn at their own pace and style. Intelligent tutoring systems, for example, use AI to adapt lessons and assessments based on a student's progress, offering real-time feedback and support. Automated grading systems are another application, reducing the workload on educators and providing students with immediate feedback on their performance.

In India, AI is being used to address challenges such as the shortage of qualified teachers, especially in rural areas. AI-powered virtual tutors and online learning platforms are helping to bridge this gap, providing quality education to students regardless of their geographical location. Additionally, AI is being applied in administrative processes, such as admissions and scheduling, to streamline operations and improve efficiency.

However, the literature also highlights significant challenges associated with AI in education. The digital divide remains a major issue in India, with unequal access to technology hindering the widespread adoption of AI-powered tools. Data privacy and security are other concerns, as AI systems often require large amounts of data to function effectively. There is also a need for teacher training and professional development to ensure that educators are equipped to use AI tools effectively.

RESEARCH GAP

While there is a growing body of research on the application of AI in education, there is still a limited understanding of its long-term impact on education quality and equity in India. Most studies focus on the potential benefits of AI, with less attention given to the challenges and risks associated with its implementation. Additionally, there is a lack of research on the specific needs of the Indian education system and how AI can be tailored to meet these needs. This study aims to fill these gaps by providing a comprehensive overview of AI applications in Indian education, identifying both the opportunities and challenges they present.

OBJECTIVE

The primary objective of this study is to analyze the role of AI and AI-powered technologies in the Indian education system. The study aims to understand how these technologies are being applied, the benefits they offer, the challenges they pose, and their potential long-term impact on education in India. By identifying the current research gaps, the study seeks to provide recommendations for the effective integration of AI in education, ensuring that its benefits are maximized while minimizing potential risks.

RESEARCH METHODOLOGY

This study is based on a comprehensive review of existing literature on AI in education, with a focus on its application in the Indian context. The research involved analyzing academic papers, government reports, and case studies to identify the current use of AI in Indian education, its benefits, challenges, and potential future developments. The study also included interviews with educators, policymakers, and AI experts to gain insights into the practical challenges and opportunities associated with AI in Indian education.

AI-powered technologies in the Indian education system are transforming how education is delivered, accessed, and managed. These technologies leverage artificial intelligence to create personalized learning experiences, automate administrative tasks, and enhance overall educational efficiency.

AI-POWERED TECHNOLOGIES IMPACTING THE INDIAN EDUCATION

Here's an overview of key AI-powered technologies currently impacting the Indian education landscape:

1. Personalized Learning Platforms

AI-driven personalized learning platforms adapt to individual student needs, learning styles, and paces. These platforms analyze a student's performance, strengths, and weaknesses to tailor content, quizzes, and study plans. Examples include platforms like BYJU'S and Vedantu, which offer adaptive learning experiences to students across India. These systems help students focus on areas where they need improvement and provide resources that match their learning style.

2. Intelligent Tutoring Systems (ITS)

Intelligent Tutoring Systems use AI to simulate one-on-one tutoring. They provide real-time feedback, personalized guidance, and adaptive assessments based on a student's progress. These systems are particularly useful in subjects like mathematics and science, where step-by-step problem-solving is crucial. AI tutors can also assist students outside of classroom hours, ensuring continuous learning support.

3. Automated Grading and Assessment

AI-powered automated grading systems are used to evaluate assignments, quizzes, and exams efficiently. These systems can assess both objective and subjective answers, providing immediate feedback to students. This technology reduces the workload on teachers and ensures consistent and unbiased evaluation. For example, platforms like Gradescope use AI to assist in grading large volumes of student work.

4. Virtual Classrooms and Online Learning Platforms

AI powers virtual classrooms and online learning platforms that simulate the traditional classroom environment online. These platforms often include AI tools that monitor student engagement, suggest resources, and facilitate interactive learning. AI also supports automated attendance tracking, participation analysis, and the delivery of personalized content in real-time.

5. Natural Language Processing (NLP) for Language Learning

NLP-powered tools help students improve their language skills by offering personalized language learning experiences. These tools can analyze a student's spoken or written language, provide corrections, and offer practice exercises. AI-based language learning apps like Duolingo are increasingly popular in India for both regional and foreign language education.

6. Administrative Automation

AI is used to automate various administrative tasks within educational institutions. This includes student enrollment, scheduling, attendance tracking, and resource allocation. By automating these processes, AI helps institutions operate more efficiently, freeing up resources that can be redirected to enhance teaching and learning.

7. AI-Powered Educational Content Creation

AI tools can assist in creating educational content tailored to specific curricula and student needs. For instance, AI can generate practice problems, quizzes, and even entire lesson plans based on the analysis of curriculum standards. This technology enables educators to provide customized learning materials that align with students' progress and learning objectives.

8. Virtual Reality (VR) and Augmented Reality (AR) in Education

AI powers VR and AR applications that create immersive learning experiences. In India, these technologies are being used in subjects like history, science, and geography to create virtual labs, historical site visits, and interactive simulations. By providing experiential learning opportunities, AI-driven VR and AR help students grasp complex concepts more effectively.

9. AI-Based Predictive Analytics

Predictive analytics powered by AI helps educational institutions identify students at risk of falling behind or

dropping out. By analyzing data on student performance, attendance, and engagement, AI can predict which students might need additional support and interventions. This allows educators to proactively address issues and improve student retention rates.

10. AI in Career Counseling and Guidance

AI-driven career counseling platforms analyze students' interests, strengths, and academic records to suggest suitable career paths. These platforms use algorithms to match students with potential careers and educational opportunities, providing personalized advice and helping students make informed decisions about their futures.

CHALLENGES ASSOCIATED WITH AI IN INDIAN EDUCATION

1. Digital Divide: One of the most significant challenges is the digital divide, where many students, especially in rural and underserved areas, lack access to the necessary technology and internet connectivity. This inequality can prevent widespread adoption of AI-powered educational tools.
2. Data Privacy and Security: AI systems require large amounts of data to function effectively. In India, concerns about data privacy and security are critical, especially in educational settings where sensitive student information is involved.
3. Teacher Training and Professional Development: Many educators in India may not have the required skills or training to effectively integrate AI tools into their teaching practices. Without adequate training, the potential benefits of AI in education may not be fully realized.
4. Infrastructure and Resource Constraints: The implementation of AI in education requires substantial infrastructure, including hardware, software, and maintenance. In many parts of India, schools and educational institutions may lack the necessary resources to support such infrastructure.
5. Ethical Concerns and Bias: AI systems can perpetuate biases if the data used to train them is not representative or is skewed. Ensuring that AI tools are fair and unbiased is a critical challenge in their application in education.

OPPORTUNITIES ASSOCIATED WITH AI IN INDIAN EDUCATION

1. Personalized Learning: AI can tailor educational experiences to individual student needs, allowing for personalized learning paths. This can help students learn at their own pace and style, potentially improving outcomes.
2. Increased Accessibility: AI-powered platforms can make education more accessible to students in remote and underserved areas. Virtual tutors and online courses can provide quality education to students who otherwise might not have access.
3. Administrative Efficiency: AI can automate administrative tasks such as grading, scheduling, and admissions, reducing the workload on educators and allowing them to focus more on teaching.
4. Enhanced Learning Outcomes: Intelligent tutoring systems and AI-driven assessments can provide real-time feedback and support to students, helping them identify and address their weaknesses more effectively.
5. Scalability: AI solutions can be scaled to reach large numbers of students across diverse geographical locations, making it possible to deliver quality education at scale in a country as populous as India.

FINDINGS

The findings of this study indicate that AI has the potential to significantly enhance the Indian education system. AI-powered technologies such as personalized learning platforms, intelligent tutoring systems, and automated grading systems are already being used in various educational institutions across India. These technologies are helping to improve student outcomes by providing personalized learning experiences, reducing the administrative burden on

teachers, and increasing access to quality education in remote and underserved areas.

However, the study also identified several challenges that need to be addressed to fully realize the potential of AI in education. The digital divide is a major issue, with many students and schools lacking access to the necessary technology and infrastructure. Data privacy and security concerns are also significant, particularly in a country as large and diverse as India. Additionally, there is a need for teacher training and professional development to ensure that educators are equipped to use AI tools effectively.

RECOMMENDATIONS

Based on the findings, the study recommends the following actions:

1. Foster Public-Private Partnerships: Collaboration between the government, private sector, and educational institutions can help accelerate the development and deployment of AI-powered technologies in education. Public-private partnerships can also help address the digital divide by providing funding and resources for infrastructure development.
2. Increase Investment in AI Research and Development: To fully realize the potential of AI in education, there is a need for increased investment in research and development. This includes developing AI technologies that are tailored to the specific needs of the Indian education system and conducting research on the long-term impact of AI on education quality and equity.
3. Create Inclusive Policies: To ensure that all students benefit from AI-powered education, there is a need for inclusive policies that address the digital divide and ensure that students in remote and underserved areas have access to the necessary technology and resources.
4. Promote Continuous Professional Development for Educators: Teachers play a crucial role in the successful integration of AI in education. There is a need for continuous professional development to ensure that educators are equipped with the skills and knowledge needed to use AI tools effectively.

CONCLUSION

The application of AI in the Indian education system offers significant opportunities for enhancing the quality and accessibility of education. However, to fully realize the potential of AI, there is a need to address the challenges associated with its implementation, including the digital divide, data privacy concerns, and the need for teacher training. By fostering public-private partnerships, increasing investment in AI research and development, and creating inclusive policies, India can leverage AI to transform its education system and ensure that all students have access to quality education.

This study provides a comprehensive overview of the current state of AI in Indian education, highlighting both the opportunities and challenges it presents. While AI holds great promise, its successful integration requires a balanced approach that maximizes benefits while mitigating potential risks.

REFERENCES

- Agarwal, P., & Sharma, S. (2022). The Role of AI in Education: An Indian Perspective. International Journal of Educational Technology, 8(2), 123-138.
- Balasubramanian, S. (2021). AI and the Future of Education in India: Opportunities and Challenges. Journal of Educational Research and Innovation, 12(1), 45-62.
- Choudhury, M. R., & Srivastava, A. (2020). AI-Powered Learning: The Next Generation of Education in India. Education and Information Technologies, 25(5), 567-584.
- Dubey, G., Hasan, M., & Alam, A. (2022). Artificial Intelligence and the Indian Education System: Promising Applications and Challenges. Technology in Education, 14(2), 222-239.
- Gupta, V. (2023). Leveraging AI for Enhanced

Learning Outcomes in Indian Schools. Educational Technology Review, 29(4), 89-102.

- Jain, K., & Kumar, R. (2021). AI in Education: Bridging the Digital Divide in India. Journal of Emerging Technologies in Learning, 16(7), 123-134.
- Kapoor, R., & Singh, D. (2021). AI in Indian Higher Education: Revolutionizing Learning with Intelligent Systems. Journal of Computer-Assisted Learning, 37(3), 654-671.
- Kumar, A., & Menon, P. (2020). The Impact of AI on Educational Administration in India. International Journal of Educational Management, 34(2), 567-582.
- Mishra, N., & Aithal, P. S. (2023). Ancient Indian Education: Its Relevance and Importance in the Modern Education System. International Journal of Computer Science and Business Engineering, 5(1), 45-57.
- Niyaz, P. (2022). Paradigm Shift: The Role of AI and Internet in the Indian Education System. Journal of Education Technology, 15(4), 201-220.
- Patel, S. (2020). AI-Based Educational Platforms: A Study of Their Impact on Learning in India. Education and Development Quarterly, 7(3), 321-338.
- Sinha, K., & PriyaDarshani, M. (2021). Impact of Information and Communication Technology in the Indian Education System during COVID-19. Handbook of Research on ICT in Education, 19(3), 245-264.
- Srivastava, R., & Verma, P. (2021). AI-Powered Learning Tools: Transforming the Indian Educational Landscape. Journal of Artificial Intelligence in Education, 12(6), 342-358.
- Tated, R. G., & Prasad, R. (2015). Review of the Indian Education System: The Role of AI in Addressing Globalization Challenges. IEEE Conference on Emerging Trends in Educational Technology, 2(1), 233-239.
- Tripathi, S. (2022). AI in Education: An Overview of Its Application in Indian Schools. Journal of Digital Learning, 15(2), 114-128.
- Upadhyay, P., & Singh, A. (2023). AI-Powered Virtual Classrooms in India: A Future Perspective. International Journal of Innovation in Education, 8(1), 95-110.
- Venkatesh, M. (2020). The Role of Artificial Intelligence in Shaping the Future of Indian Education. Indian Journal of Education and Learning, 10(3), 167-179.
- Verma, S., & Kaur, H. (2021). The Integration of AI in Higher Education: Challenges and Opportunities in India. Education Policy Analysis Archives, 29(7), 450-469.

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