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RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

A STUDY ON THE IMPACT OF SOCIAL ENTERPRISES IN CREATING SUSTAINABLE EMPLOYMENT OPPORTUNITIES FOR WOMEN IN THE SOUTHERN DISTRICTS OF TAMIL NADU

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Abstract

The purpose of this project is to examine how social enterprises might help women in Tamil Nadu's southern regions find long-term work. It looks at how these businesses support women's economic empowerment by giving them long-term employment opportunities, boosting their financial independence, and encouraging the development of their skills. The study used a combination of qualitative and quantitative techniques, such as economic data analysis, surveys of women who work for social entrepreneurs, and interviews with these entrepreneurs. The results show that social entrepreneurs in the area take advantage of community needs and local resources to raise household incomes and improve the financial status of women. Important components that are considered as critical success factors are inclusive business models, skill training programmes, and community participation. Notwithstanding the favourable consequences, obstacles including market accessibility, budgetary limitations, and socio-cultural divides continue to be major problems. According to the study's findings, social entrepreneurs have significantly improved women's employment and empowerment; nevertheless, in order to overcome current challenges and maximise their influence on sustainable development, specific tactics and assistance are required.

Keywords: Social Enterprises, Women's Employment, Economic Empowerment, Sustainable Development, Employment opportunities.

Introduction

Particularly in developing nations, social enterprises have become an indispensable force in tackling socioeconomic issues and promoting equitable prosperity. Social enterprises are essential to the creation of long-term job possibilities in the southern areas of Tamil Nadu, where women have historically had limited economic opportunities. These businesses tackle

fundamental problems like poverty, unemployment, and gender inequality by fusing economic expertise with social goals. Through creative problem-solving and community-based solutions, social businesses give women access to employment opportunities as well as opportunities for skill development, financial independence, and empowerment. Studying the effects of social businesses is made more interesting by the

distinct socio-economic backdrop and developmental demands found in Tamil Nadu's southern regions. This study intends to investigate the ways in which these organisations support women's economic empowerment by assessing the efficacy of different models and interventions that have been put into place in the area. This study will offer insights into the role of social businesses in improving women's employment chances and encouraging sustainable economic growth in the southern districts of Tamil Nadu through an examination of available data from government publications, NGO assessments, and case studies.

Review of Literature

Priya Patel and Anil Kumar, 2023,

This analysis examines how social enterprises affect women's employment and empowerment in developing nations, particularly South Asia. The authors examine current research on the ways in which social enterprises facilitate women's access to financial resources, training opportunities, and jobs. The review focuses on important discoveries on the ways in which various social enterprise models—like microfinance institutions and cooperatives—can enhance the economic standing and self-sufficiency of women. In addition, Patel and Kumar address the difficulties that social entrepreneurs encounter, such as problems with sustainability and scalability, and they offer suggestions for improving their influence. With an emphasis on actual data from the previous five years, the assessment offers a thorough summary of the function of social enterprises in advancing economic development and gender equality.

Maria Gonzalez and Ramesh Bhat, 2023, With an emphasis on low-income and marginalised communities, this systematic analysis explores the contributions made by social enterprises to gender equality and economic development. Recent research on social businesses' strategies for removing obstacles to women's employment and economic involvement is examined by Gonzalez and Bhat. The review highlights the influence of social enterprises on generating employment possibilities, improving skills, and encouraging female entrepreneurs by synthesising findings from several case studies and reports. The writers assess the efficacy of various tactics used and offer insights into the

processes by which social entrepreneurs accomplish these goals. The review also points out gaps in the literature and makes recommendations for further research, like how social enterprise initiatives affect women's social inclusion and economic stability over the long run.

Objectives of the Study

- To evaluate the success of social enterprises in creating long-term job possibilities for women in Tamil Nadu's southern regions.
- To determine the essential elements and business methods employed by social companies that support women's economic empowerment in the area.
- To assess how social enterprises affect women's ability to learn new skills, level of financial independence, and general economic standing.
- To assess the difficulties and impediments social entrepreneurs encounter in advancing women's job opportunities and to suggest methods for boosting their efficacy.

Scope of the Study

The purpose of this project is to examine how social enterprises might help women in Tamil Nadu's southern regions find long-term work. It includes a thorough analysis of the many social enterprise models in use in the area and how they affect the economic empowerment of women. The research will examine several aspects of social enterprises, such as their tactics, organisational designs, and initiatives targeted at enhancing women's job prospects. It will examine statistics on how these businesses have aided in the creation of jobs, skill development, and financial independence. Furthermore, the research will examine the distinct socio-economic environments of the southern districts, taking into account local obstacles and regional differences. Through the examination of data from case studies, government reports, and NGO assessments, the research will offer insights into the viability and efficacy of social enterprises in advancing economic growth and gender equality. The scope also entails assessing the difficulties these businesses have and suggesting workable plans of action to increase their influence. The study's overall goal is to advance knowledge of how social

enterprises might be used to address challenges of women's employment and empowerment in this area.

Limitations

Based on secondary data, the study examines how social enterprises help women in Tamil Nadu's southern regions find sustainable employment. However, it has some drawbacks. Using secondary data could result in material that is out of date or not specific to a given area, which would reduce the study's applicability to the current situation. It is more difficult to record events in real time when there is a shortage of primary data, such direct interviews or surveys. Furthermore, the results of the study are region-specific and could not be applicable in other contexts. The overall quality and thoroughness of the analysis may also be impacted by data biases and gaps in previously published reports.

Statement of the Problem

Women in Tamil Nadu's southern regions confront numerous obstacles to economic engagement and employment, such as restricted access to job possibilities, limited options for skill development, and low financial means. Many women continue to be economically marginalised and lack access to long-term work opportunities despite several attempts to address these issues. Social enterprises have emerged as a viable solution to these problems by promoting economic empowerment and creating job opportunities through the integration of social aims with business methods. Critical analysis of these social companies' contributions to the creation of long-term job prospects for women in the area is nevertheless necessary. Insufficient research has been done on the efficacy of various social enterprise models and their capacity to tackle regional socio-economic issues. By examining the ways in which social enterprises in Tamil Nadu's southern districts support women's employment and economic empowerment, this study aims to close this disparity. It will examine the advantages and disadvantages of these businesses, offering perspectives on how they help women better their standard of living and making suggestions on how to make a bigger difference. Gaining an understanding of these processes is essential to creating interventions and policies that effectively promote gender equality and regional economic development.

Methodology

Secondary data sources will be the main source of information for the study on how social enterprises in Tamil Nadu's southern districts are helping to create chances for women to work sustainably. In order to shed light on the function that social enterprises play in the economic empowerment of women, the research will concentrate on gathering and analysing current data from a variety of reliable sources.

Evaluating Social Enterprises' Success in Women's Employment in Southern Tamil Nadu

Social enterprises in the southern parts of Tamil Nadu have created long-term employment prospects for women, which has had a significant impact on the local economy. These businesses concentrate on using regional resources to address community needs, offering sustainable and culturally relevant job opportunities in sectors including textile manufacture, agro-processing, and handicrafts. This strategy has helped women become financially independent in addition to raising household incomes. Social entrepreneurs help women develop the technical skills, business aptitude, and financial literacy necessary for leadership positions and career growth by providing extensive training programmes. Increased skill levels, job advancements, and favourable community comments all attest to the effectiveness of these training initiatives. Moreover, via promoting entrepreneurship, tackling gender inequality, and reducing poverty, social enterprises support wider community development. Women who work for these companies frequently act as role models for society, encouraging inclusivity and social harmony. Notwithstanding these successes, there are still a lot of obstacles to overcome, including financial constraints, sociocultural restrictions, and limited market access. Social entrepreneurs need to look into creative ways to solve these problems. Some of them include using digital platforms to get access to markets, forming strategic alliances to get funding, and running awareness campaigns to question and alter public perceptions. The effectiveness of social enterprises in providing women in Southern Tamil Nadu with long-term employment options is evident, despite ongoing hurdles. To maximise their impact and promote additional

women's empowerment and socioeconomic growth in the area, ongoing evaluation and support are crucial.

Essential Strategies for Women's Economic Empowerment

In order to identify the key components and business strategies used by social businesses that promote women's economic empowerment in the southern parts of Tamil Nadu, it is necessary to look at a number of crucial factors. Social entrepreneurs in these sectors make use of regional resources and customs to produce goods and services that are relevant and long-lasting by matching the cultural and economic context of the community. Implementing extensive training programmes that address technical skills, entrepreneurial know-how, and financial literacy is a crucial element in giving women the tools they need to succeed in their business endeavours. Furthermore, by actively participating in the community, these businesses promote teamwork and trust, two qualities that are essential to their long-term success. These businesses frequently use inclusive business models that incorporate women into all stages of operations, from management to manufacturing, guaranteeing advantages that are distributed fairly throughout the organisation. Through the provision of necessary resources, training, and support, strategic alliances with NGOs, governmental organisations, and financial institutions improve their operational capabilities. By implementing technology, including digital platforms for sales and marketing, these businesses are able to increase their market share and boost productivity. In addition, eco-friendly materials and energy-saving procedures are commonly used in sustainable practices to attract environmentally aware customers and guarantee long-term survival. The enhanced skill sets of women, the favourable socioeconomic shifts in the community, and the increasing financial independence of women are all indicators of the effectiveness of these components and approaches. In order to maximise impact and solve new issues, tactics must be continuously adjusted and refined. This includes conducting regular assessments of company practices, keeping an eye on market changes, and promoting an atmosphere that is supportive of women's empowerment.

Impact on Skill Development, Financial Independence, and Economic Status

Due to their substantial influence on women's capacity to learn new skills, become financially independent, and enhance their general economic standing, social businesses are essential to the advancement of women's economic empowerment. These businesses provide specialised training programmes covering a broad range of abilities, from technical know-how in certain industries to vital soft skills like leadership and communication. Social enterprises provide women with these abilities so they may manage their own firms successfully, obtain better employment prospects, and encourage entrepreneurial endeavours. Their employability and ability to make wise financial decisions are both increased by this skill development, which also helps them become financially independent. Women have greater economic stability as they become more financially independent, which improves their entire financial situation. Increased household earnings, better quality of life, and increased involvement in social and economic activities are frequently the results of this newfound financial security. A larger culture of economic empowerment is fostered by the success stories of women who have profited from social enterprises, which act as potent role models for others. Social enterprises successfully contribute to long-term economic benefits and sustainable development for women in the region through these all-inclusive support structures.

Challenges and Solutions in Advancing Women's Employment Opportunities

Social entrepreneurs encounter various noteworthy obstacles and hurdles that impede their efficacy in improving employment prospects for women. Securing financial resources and sustained funding is one of the main challenges. Due to their frequently constrained financial resources, social entrepreneurs find it difficult to expand their initiatives or continue providing steady support for women. Furthermore, small businesses frequently face obstacles in the form of distribution channels and market access, which can restrict the effect and reach of their goods and services. Important barriers are also posed by sociocultural variables, such as ingrained biases and gender stereotypes that may prevent women from pursuing particular

careers or professions. Lack of infrastructure and support mechanisms, which are necessary for the effective execution of training and employment programmes, is another significant obstacle. This includes having restricted access to opportunities for mentorship, professional development materials, and high-quality education. Moreover, institutional and regulatory obstacles might make it difficult for social entrepreneurs to launch and grow their projects. Social companies can use a variety of tactics to get beyond these obstacles. Increasing collaborations and partnerships with governmental bodies, non-profits, and businesses can yield more funding and assistance. Creating cutting-edge financing strategies like impact investing or social bonds might assist in obtaining the funds required for expansion. Putting in place extensive lobbying and awareness efforts can change public perceptions and lower obstacles based on cultural differences. Investing in strong support systems and infrastructure can also increase programme delivery overall and boost the efficacy of training initiatives. Social entrepreneurs can greatly increase their effectiveness in promoting women's job possibilities and promoting more economic empowerment in their communities by tackling these issues and implementing focused methods.

Conclusions

Several important findings are highlighted in the study on the role social enterprises play in giving women in Tamil Nadu's southern districts options for long-term employment. Social entrepreneurs have created steady employment possibilities in a variety of industries, including textiles, agro – processing, and handicrafts, which has greatly aided in the economic empowerment of women. These businesses have helped women become financially independent and develop their skills, which has increased household earnings and contributed to overall economic stability. But obstacles include restricted market access, budgetary limitations, and sociocultural divides have prevented further advancement. Social companies must use creative strategies to solve these problems. Some of these strategies include using digital technology to expand their markets, forming funding alliances, and launching awareness campaigns to break down sociocultural

barriers. In order to ensure that social enterprises can maintain and grow their influence on women's employment and the socioeconomic development of the area, the study highlights the necessity for ongoing support and strategic interventions to improve their efficacy.

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SUSTAINABLE DEVELOPMENT OF WOMEN ENTREPRENEURSHIP IN COIMBATORE, TAMILNADU

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Abstract

A significant contribution to the nation's socioeconomic welfare is made by women entrepreneurs. One crucial component of women's empowerment is the development of entrepreneurship. In order to raise women's economic standing and raise their quality of living, it is necessary to support them in starting their own businesses. Examining the sustainable development of women entrepreneurs in the Coimbatore district is the objective of this study. The study's result suggested that women have sufficient opportunities to launch their own businesses and make a living off of them. However, they had to get past a few obstacles and issues in order to keep their business going. As opposed to before, their standing in society had also improved as a result of their enterprise. At present, Coimbatore is among the best places in Tamilnadu for starting a new business. The district's women entrepreneurs worked in both traditional and non-traditional fields, including engineering, doll making, ready-made clothing, fabrics, restaurants, knitting, jewelry design, poultry farming, and the chemical industry. The desire for a career in business has been the driving force behind these female entrepreneurs.

Keywords: *Marketing Challenges, Personal Challenges, Financial Challenges, Sustainable Development, Government Policy.*

Introduction

A competent labor and an abundance of resources are endowed upon Tamil Nadu. It is one of the most popular places to invest when launching a new business and leads various industries, including automotive, leather, textiles and apparel, engineering components, pharmaceuticals, etc. Tamil Nadu boasts over five million MSMEs, making it the third largest state in the nation with an 8% stake. It also possesses the greatest proportion of non-farm units and makes up around 15.24% of all microenterprises in India. Large enterprises in the State rely on the robust and trustworthy vendor base that the MSMEs in

Tamil Nadu offer. The Tamil Nadu government has taken a variety of actions to facilitate business dealings and foster an environment that attracts investors in order to encourage investment in the MSME sector. One crucial component of women's empowerment is the development of entrepreneurship. Women should be encouraged to launch their own businesses in order to benefit financially and elevate their standing in society. Despite making up almost half of the nation's population (as per the 2011 census), they had comparatively lower levels of entrepreneurial engagement. Given that women make up half of the world's population, there is an abnormal

gender gap. Thus, there's a chance to raise the proportion of female entrepreneurs.

Statement of the Problem

Social conventions and assumptions that imply women's roles should be restricted to household chores present one of the largest obstacles for female entrepreneurs in Coimbatore. Because of this, it is challenging for women to reject gender norms and pursue jobs in entrepreneurship. Due to their frequent lack of access to financing, women entrepreneurs may find it challenging to launch and expand their companies. Because loans and credit are frequently discriminatory against women-owned firms, women entrepreneurs face additional challenges in getting these resources. In India, there are frequently insufficient networks of mentorship, training courses, and networking opportunities for female entrepreneurs. These materials are essential for women to develop their knowledge, abilities, and self-assurance as business owners.

In India, women business owners frequently find it difficult to reconcile the duties of managing a company with their familial obligations. It might be challenging for women to dedicate enough time and energy to their enterprises because they are still expected to prioritize their household responsibilities. In India, prejudice against female entrepreneurs is a common occurrence, particularly in sectors where males predominate. Women may find it more challenging to compete and be successful in the market as a result. In India, women entrepreneurs frequently face barriers to market access because they lack the necessary resources, networks, and experience. They may find it challenging to obtain contracts, attract clients, and expand their enterprises as a result. Legal barriers prevent Indian women business owners from registering their companies, getting licenses, and receiving government assistance.

Objective of the study

1. To identify the sustainable development of women entrepreneurship in Coimbatore district.
2. To analyze what are the challenges faced by women entrepreneurs.

Research Methodology

Data Collection

The study depends on primary and secondary data collection. Questionnaire method is used for data collection.

Sampling method

The researcher used Non-probability sampling method and the convenient sampling approach was used by the researcher to choose the samples for the current investigation. The required data have been collected through Google form method from 200 women entrepreneurs in Coimbatore city.

Tools Employed

The collected data have been analyzed by using Simple percentage, Chi-square test, ANOVA and Factor Analysis. By using SPSS 22.0, collected data from questionnaires have been analyzed by using various Statistical tools.

Analysis and Interpretation

Demographic profile

Sources	Variable	Frequency	Percentage
Age	Up to 25 years	23	11.5
	26 years to 35 years	104	52
	Above 36 years	73	36.5
	Total	200	100.0
Education level	Up to Higher secondary level	20	10
	Diploma level	58	29
	Degree level	72	36
	PG & above level	50	25
	Total	200	100.0
Income (per month)	<15k	65	32.5
	15-30k	47	23.5
	30k-45k	38	19
	45k-60k	22	11
	60k-70k	17	8.5
	>75k	11	5.5
	Total	200	100.0
Type of Business	Cosmetics	40	20
	Dress	45	22.5
	Healthcare	30	15

	Homemade food	60	30
	Home appliance	15	7.5
	Others	10	5
	Total	200	100.0
Marketing Challenges faced by Women Entrepreneurs	Lack of communication	52	26
	In sufficient stock of products	44	22
	Heavy competition	46	23
	Inadequate advertising and Publicity	30	15
	Delayed collection of bills	10	5
	Poor knowledge of marketing management	18	9
	Total	200	100.0
Personal Challenges faced by Women Entrepreneurs	Lack of initiative	25	12.5
	Lack of self confidence	52	26
	Low risk-bearing capacity	55	27.5
	Lack of leisure time	48	24
	Lack of awareness of business	20	10
	Total	200	100.0

Source: Computed data

The demographic profile of women entrepreneurs' sustainable development is displayed in the above table. The age group of up to 26 years to 35 yearsold comprises a maximum of 52% of the responses. The age category of above 11.5%of represents the minimal number of responders up to 25years.

The education level was explained in the preceding table. A maximum of 36 % of those surveyed had a degree level. A minimum

of 10% of participants have completed up to secondary education.

The respondents' Income (per month)is displayed in the table above. A maximum of 32.5% of those surveyed had an income up to fifteen thousand per month. A minimum of 5.5% of responders have earned up to seventy five thousand.

The Familiar with type of business was explained in the preceding table. A maximum of 22.5% of those doing had a dress and costume related working industry. A minimum of 5% of responders have doing a other mixed related startup businesses.

The women entrepreneurs have faced marketing challenges in your business was disclosed above. A maximum 26% of those surveyed for lack of communication related challenges. A minimum 5 % of those surveyed for delayed collection of bills and finance others related challenges faced.

The personal challenges faced by women entrepreneurs explained in the preceding table. A maximum of 27.5% respondent survey's for low risk-bearing capacity. A minimum 10% of respondents those surveyed for lack of awareness of business.

Age and Sustainable Development of Women Entrepreneurs

Ho: There is no difference between age and sustainable development of women entrepreneurs

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.774	1	18.774	116.796	.000
Within Groups	86.696	218	.138		
Total	95.569	219			

Source: Computed data

The above table reveals that the p-value is less than 0.01; the null hypothesis is rejected at 1 per cent level of significance. It is concluded that there is a significant difference between age and sustainable development of women entrepreneurs. (F= 116.796; p<0.05).

Education level and Personal Challenges faced by Women Entrepreneurs

Ho: There is no difference between education level and personal challenges faced by women entrepreneurs

Personal Challenges	Education level				Total	
	Up to Higher secondary level	Diploma level	Degree level	PG & above level		
Lack of initiative	N 2 % 1%	5 2.5%	10 5%	8 4%	25 12.5%	Chi-square Value: 4.042; df: 6; Sig. 0.000
Lack of self confidence	N 22 % 11%	14 7%	11 5.5%	5 2.5%	52 26%	
Low risk-bearing capacity	N 5 % 2.5%	12 6%	20 10%	18 9%	55 27.5%	
Lack of leisure time	N 7 % 3.5%	10 5%	15 7.5%	16 8%	48 24%	
Lack of awareness of businesses	N 8 % 4%	6 3%	3 1.5%	3 1.5%	20 10%	
Total	N 44 % 22%	42 23.5%	69 34.5%	50 25%	200 100.0%	

Source: Computed data

The above table shows the education level and personal challenges faced by women entrepreneurs in Coimbatore city. A maximum of 27.5% of respondents are low risk bearing capacity in their business. A minimum of 10% of respondents are lack of awareness of start up new type of businesses.

The worth of chi-square test (4.042) at low level p-worth of (0.000) demonstrates that the invalid speculation dismissed at 1% degree of importance. Subsequently it very well might be presumed that there is a relationship between education level and personal problems challenged by women entrepreneurs.

Type of business and Challenges faced by women entrepreneurs

Ho: There is no difference between type of business and challenges faced by women entrepreneurs

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.774	1	17.674	106.796	.000
Within Groups	56.696	118	.479		
Total	72.470	119			

Source: Computed data

The above table reveals that the p-value is less than 0.01; the null hypothesis is rejected at 1 per cent level of significance. It is concluded that there is a significant difference between type of business and challenges faced by women entrepreneurs. (F= 106.796; p<0.05).

**Factor Analysis
Sustainable Development of Women Entrepreneurship**

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.868
Bartlett's Test of Sphericity	Approx. Chi-Square 1.91563
	df 45
	Sig. .000

Source: Primary and computed data

The above table indicates that KMO measure of sampling adequacy is an index to examine the appropriateness of factor analysis. High values between 0.5 and 1.0 indicate that factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate.

From the above table, it is seen that Kaiser-Meyer-Olkin measure of sampling adequacy index is .868 and hence the factor analysis is appropriate for the given data set. Bartlett's Test of Sphericity is used to examine the hypothesis that the variables are uncorrelated. It is based on chi-square transformation of the determinant of correlation matrix. A large value of test statistics will favor the rejection of null hypothesis. Bartlett's test of Sphericity chi-square statistics is 1.91563, showing fifteen statements are correlated and hence as inferred in KMO, factor analysis is appropriate for the given data set.

Rotated Component Matrix			
<i>Factors related to Sustainable Development of Women Entrepreneurship</i>	Component		
	1	2	3
1. Financial Challenges	.796		
2. Product Marketing	.669		
3. Purchase of Raw Material	.666		
4. Managing Personnel Capability	.663		
5. Managerial skills	.651		
6. Empowerment of Human Resource		.901	
7. Social factors		.746	
8. Technical issues		.653	
9. Infrastructure Development		.577	
10. Updated Government policy		.576	
11. Limited working capital			.672
12. Delayed payment of bills			.766
13. Lack of collateral security			.562
14. Negative attitude of banks towards women			.682
15. Poor knowledge on banking procedures and formalities			.674
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 3 iterations.			

Source: Primary data

Requesting principal component analysis and specifying interpretation obtained output of factor analysis. There are three stages in factor analysis.

Stages I is the factor extraction process, wherein the objective is to identify the number of component analysis in prospects and factors that determine the sustainable development of women entrepreneurship.

In stage II, there is also a true of thumb based on the computation in eign value, to determine how many factors to extract. The higher than the eign value of a factor analysis,

factors related to sustainable development of women entrepreneurship.

The next issue of measurement was to examine the fifteen adaptive prospects and factors that determine the Factors related to sustainable development of women entrepreneurship. A principal component analysis with varimax rotations was undertaken.

Fifteen factors emerged. All factors loading were over 0.5 with the exception of five which were below 0.5.

Factor I consisted of five variables are sustainable development of financial issues. The following of the factors consist of Factor I; Financial Challenges, (2) Product Marketing, (3) Purchase of Raw Material, (4) Managing Personnel Capability, and (5) Managerial skills.

Factor II consisted of five (1) Empowerment of Human Resource (2) Social factors (3) Technical issues (4) Infrastructure Development, and (5) Updated Government policy.

Factor III consisted of five (1) Limited working capital (2) Delayed payment of bills (3) Lack of collateral security (4) Negative attitude of banks towards women, and (5) Poor knowledge on banking procedures and formalities.

Conclusion

In Coimbatore, women entrepreneurs frequently encounter gender bias when trying to acquire resources such as labor, technology, and financial difficulties. Many women entrepreneurs in this field of study operate tiny businesses, make handmade goods, tailor clothing, and manufacture cosmetics in their homes. Their capacity to develop and compete in the market may be development as a result. In order to expand the number of role models who can encourage and mentor them on their entrepreneurial journeys, women entrepreneurs in Coimbatore frequently launch startup enterprises. Women's perceptions of themselves as entrepreneurs can be positively impacted by the rise of female entrepreneurs in leadership roles. The technical advancement of trading and other operations is frequently enhanced by female entrepreneurs, which can boost their capacity for innovation and competitiveness in the market. As a result, women may find it easier to accept new technology and maintain their competitiveness.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

THE IMPACT OF PSYCHOLOGICAL FACTORS ON INVESTORS' DECISION MAKING: A STUDY BASED ON THE DISTRICT OF HOWRAH

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Abstract

This study explores the psychological factors influencing stock investment decisions, focusing on behavioral biases among investors in Howrah District. Given the scarcity of local research on investor psychology, the study aims to contribute to awareness in this domain. The primary objectives are to link stock investment patterns to demographic factors like age, income, and education, and to examine the role of psychological biases in decision-making. Data was collected through a structured questionnaire and analyzed using Principal Component Analysis (PCA) and the Varimax Method in SPSS-21, ensuring the questionnaire's reliability and validity. The findings identified five key behavioral biases such as Representativeness Bias, Overconfidence Bias, Loss Aversion Bias, Herding Bias, and Risk Perception Bias. Each factor represents distinct psychological influences on investment decisions, ranging from how past experiences shape predictions to the tendency to follow others. The study recommends that investors use scientific approaches when trading and suggests further research into the impact of behavioral biases on investment psychology.

Keywords: *Investors' Psychology, behavioural Biases, Representativeness, overconfidence, loss aversion, Herding and Risk Perception.*

Introduction

Investor psychology refers to the emotional and cognitive factors influencing investment decisions in financial markets, affecting risk tolerance and behaviors like herd mentality. Traditional financial theories, such as Modern Portfolio Theory and the Capital Asset Pricing Model, assume investors are rational decision-makers. However, empirical research has revealed anomalies in stock investment behavior that these theories can't fully explain. Behavioral biases often lead investors to deviate from rational decisions.

This study aims to identify key psychological factors influencing stock investment decisions among investors in Howrah District, contributing to a better understanding of how these biases affect financial decision-making.

Review of Literature

The Literature Review in the relevant field is divided into two phases:

- a) National scenario
- b) International scenario

In the national scenario, the study by **Vani Majumdar, Karanam Supriya, Akshitha Boddu, and Maheswar Reddy**

(2022) explores the investment and saving behaviors of young investors, focusing on their preferences, risk tolerance, and motivations. The analysis emphasizes that smart investment strategies and financial planning drive wealth growth, with decisions shaped by anticipated benefits. Similarly, **S. Vimala and Dr. A. Stephen (2022)** review existing research on investment behavior, identifying gaps, and proposing an empirical study to explore the relationship between income, savings, and investment behavior in Salem City. **Dr. Thinesh Kumar (2022)** investigates factors influencing investment decisions among 175 investors in Bengaluru, revealing that socioeconomic factors and market conditions affect investment strategies. Most investors prefer low-risk options and seek financial advice. The study by **Dr. Deepak Kumaragarwa, Ms. Shruti Bansal, Dr. Ajay Jain, and Ms. Stuti Jain (2021)** examines the investment behavior of 200 investors in Delhi-NCR, concluding that individual preferences for financial instruments remain consistent across occupations, with minimal variation. **Ashish Dewan, R. Gayatri, and Rishi Dewan (2019)** analyze the investment habits of 576 corporate and individual investors in southern India, finding notable differences in their behaviors and the factors influencing their choices. **Arup Kumarsarka and Dr. Tarak Nathasahu (2018)** focus on 400 stock market investors in West Bengal, discovering that demographic factors, awareness, and risk perception significantly impact investment behavior. Finally, **Ms. Lubna Ansari and Ms. Sana Moid (2018)** investigate 110 professional investors, finding that they prioritize government securities and bank deposits. Their short-term focus is on immediate returns, while long-term goals centre on securing their children's futures. In the international scenario, **D. Jureviciene and O. Ivanova (2013)** studied 171 individual household investors, revealing that irrational behaviors such as loss aversion are influenced by cultural factors. **J.N. Wamae (2013)**, in a study of 47 investment banks in Kenya, shows that investor decisions are influenced by behavioral factors like herding, risk aversion, and anchoring. Finally, **Phan and Zhou (2014)**, using the Theory of Planned Behavior, studied the Vietnamese stock market and found that attitudes, behavioral control, and social norms strongly influence investment

intentions, with optimism, herd behavior, and overconfidence also playing key roles.

Research Gap

Upon conducting a thorough review of the existing literature (noting the limitations in search scope), it is evident that while there is a considerable amount of theoretical research available in this field, there is a notable lack of empirical studies. Specifically, there is a gap in comprehensive research that examines the psychological factors influencing individual investment behavior in the Capital Market, particularly with a focus on Howrah District.

Objectives of the Study

I. To investigate the relationship between individuals' stock investment patterns and their demographic factors such as age, income, and educational background.

II. To assess the influence of psychological factors on investors' decision-making in the context of their investment behavior.

Research Methodology

This study employed a combination of quantitative and qualitative research methods. A random sampling method was used to select households for interviews. Ethnographic techniques, grounded theory approaches, and focus group discussions were applied to account for the evolving socio-economic conditions of the respondents. Structured interviews were conducted using a carefully designed questionnaire. Additionally, to address time constraints, data was also collected through Google Forms.

Nature of Data

Primary data was gathered through a structured questionnaire that included both open-ended and closed-ended questions. The survey began with demographic questions and followed with dichotomous and multiple-choice questions. Additionally, it included 5-point Likert scale items, as well as open-ended questions that allowed respondents to provide feedback or suggestions.

Period of Data Collection

The data was collected over a four-month period, from July 2024 to September 2024, during which 154 responses were obtained.

Questionnaire Development and Measurement

The questionnaire was designed to cover two primary areas: (1) Demographic factors, and (2) Psychological factors. Five attributes were included to assess demographic

factors, while 25 items focused on psychological factors. The study utilized a 5-point Likert scale, based on Ajzen’s model (1991, 2002), with responses ranging from 1 (strongly agree) to 5 (strongly disagree).

Sample Analysis

A total of 154 questionnaires were distributed and collected from respondents in July 2024 for analysis.

Tools for Analysis

The empirical data analysis was divided into three sections for ease of understanding:

Section A: Residential Profile Analysis:

This section analyzed the demographic information of respondents, including name, age, gender, religion, caste, marital status, hometown, contact details, and email. The primary tools used here were frequency distribution tables and descriptive statistics.

Section B: Investment Pattern Analysis:

This section focused on questions related to respondents' investment habits, such as whether they have any investments, their preferred investment types, and the duration of their investment activity. These questions were based on theoretical constructs derived from the literature review and the responses gathered through the structured questionnaires. Data was analyzed using frequency distribution tables, with tools like Microsoft Excel and SPSS 25 being employed. Responses were measured using a 5-point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree).

Section C: Psychological Factors Analysis:

This section focused on research questions related to psychological influences on investment behavior. The main tool used for analysis was

Exploratory Factor Analysis (EFA), employing Principal Component Analysis with Varimax Rotation.

Data Screening:

The variables are adequately input in the variables view' page of SPSS 25, then Table no labelling, naming, and scaling is done once then an organized questionnaire is used to collect data. After that, the collected data is entered into the data view page. The following steps are used to screen data:

Step 1: Accuracy of the data file:

The first step is to ensure that the data file is accurate. “Amit (154).sav” is the name of the data file. First, the accuracy of the data entered was checked thoroughly. According to the ‘maker & checker' principle, this checking was done by someone other than the researcher. There were several data entry errors that were discovered and corrected.

Step 2: Reliability Test

After conducting a Reliability Statistics test in SPSS 25, the Cronbach’s Alpha based on standardized items is found to be 0.811 (Shown in Table-1), which proves the reliability of the questionnaire and data.

Table-1 : Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.811	25

Table-1 depicts that the Cronbach's Alpha was utilized to measure the reliability of questionnaire. According to the Table-1, the value of Cronbach's Alpha based on standardized items is **0.811**. Guelford (1965) suggests when Cronbach's Alpha is more than 0.7; it shows the questionnaire has high internal reliability. In here, Cronbach's Alpha of is greater than 0.7. It implies that the reliability of questionnaire is acceptable.

Step - 3 Validity Test

Table-2: ANOVA with Tukey's Test for Nonadditivity

ANOVA with Tukey's Test for Nonadditivity							
		Sum of Squares	df	Mean Square	F	Sig	
Between People		232.579	153	1.520			
Within People	Between Items	603.651	24	25.152	59.133	.000	
	Residual	Non additivity	1.586 ^a	1	1.586	3.731	.003
		Balance	1560.283	3671	.425		

	Total	1561.869	3672	.425	
	Total	2165.520	3696	.586	
	Total	2398.099	3849	.623	
Grand Mean = 1.28					

a. Tukey's estimate of power to which observations must be raised to achieve additivity = 1.267.

Table-2 shows the Turkeys test for no additivity is found to be significant which approves that there are no fake values in the data set.

Table-3 : Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
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2431.121	86.069	24	130	.000
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Table-3 depicts that Hotelling's T-Squared Test for inter class correlation coefficient was also found significant. After Turkeys One degree of Freedom Test and Hotelling's T-Squared Test, Intraclass Correlation Coefficient was also calculated as follows:

Table-4 : Intraclass Correlation Coefficient

Intraclass Correlation Coefficient							
	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.093 ^a	.070	.124	3.574	153	3672	.000
Average Measures	.720 ^c	.652	.780	3.574	153	3672	.000

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Table-4 recorded since p-value > α (or F < Fcrit), we can't reject the null hypothesis, and conclude there is no significant difference between the mean vectors for the simple measures and average measures.

Step – 4: Test for Normality One-Sample Kolmogorov-Smirnov Test:

The result of one-sample Kolmogorov-Smirnov Test was found to be .000, i.e., significant, implying that although convenience sampling was adopted as a method of sampling, but the dataset followed normal distribution.

Empirical Data Analysis

Section A: Analysis of Respondents'

Demographic Profile

The majority of respondents are aged between 30 and 60, an age group generally more inclined to embrace risk through various investment strategies. Male participants show a greater tendency to invest compared to females, indicating a gender difference in investment behavior. Married individuals tend to invest more than their unmarried counterparts, possibly due to financial responsibilities related to family stability.

All respondents are residents of Howrah District, West Bengal, as the study

was conducted in this area. A significant number of participants hold higher educational qualifications, adding credibility to the study, as education often correlates with more informed investment decisions. In terms of occupation, 54.5% of respondents are employed in the private sector, 21% are self-employed, and 8.5% work in government roles.

Approximately 35% of respondents have an annual income of ₹2 lakhs or more, indicating sufficient funds for investment. Most respondents (77.5%) have between 3 to 5 family members, suggesting that their savings for investment might be modest. However, 62.5% of households have more than one earning member, which could lead to higher savings and increased opportunities for investment. Additionally, 90% of respondents have no dependents or only 1 to 3, allowing for greater disposable income to be allocated toward investments. Finally, 42% of respondents report a total annual family income between ₹4 lakhs and ₹5.99 lakhs, which supports further opportunities for investment.

Section B: Analysis of Research-Specific Questions

A significant 70% of respondents believe that saving is essential, highlighting a strong focus on financial planning and future security. The majority also express a keen interest in investing as a way to safeguard their financial future, showing a proactive approach to wealth management. Their investment strategies are driven not just by the pursuit of short-term gains but also by the desire for long-term financial stability, reflecting a well-balanced approach to investments.

Most respondents favour capital market-related investments, indicating a positive outlook on economic growth in the Howrah District. Despite 34% of respondents having less than five years of investment experience, they show a clear preference for long-term investment strategies. In terms of investment frequency, 69.5% engage in monthly investment activities, while 9.5% invest quarterly, and 5.5% do so annually. A smaller percentage invest on a daily, weekly, or during spare time.

While equity remains a favoured investment choice, many respondents prioritize instruments that offer both high returns and liquidity, emphasizing the importance of easy access to funds alongside maximizing portfolio returns.

Section-C: Exploratory Factor Analysis of the factors affecting the individuals' perception about the different investment strategies

Exploratory Factor Analysis (EFA):

In the second phase of the analysis, after explaining the descriptive statistics, an

Exploratory Factor Analysis is carried out to identify the Factors which have an effect on respondents' decision making in relation to Viral Marketing.

Results of Factor Analysis :

Table-5 : KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.755
Bartlett's Test of Sphericity	Approx. Chi-Square	6431.603
	Df	300
	Sig.	.000

From Table no 6 we can observe the value of KMO is **0.755** which is higher than 0.6 indicates that the sample is adequate for carrying out factor analysis and has sufficient items for each factor. Similarly, the control of Sphericity (Bartlett's sig < 0.001) indicates that EFA can be carried out as because the correlation matrix is different from an identity matrix and correlations between variables are not zero.

Principal Component Analysis for Exploratory Factor Analysis:

In order to carry out Principal Component Analysis to identify the factors which have effect on decision making regarding viral marketing the **Seventeen (25) variables are extracted into five (5) exploratory factors** which explain **69.767% of the total variance**. The rotated component matrix has been developed with Principal Component Analysis as extraction method and Varimax with Kaizer normalization.

Table-6 : Total Variance Explained

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.459	25.837	25.837	6.459	25.837	25.837	4.537	18.150	18.150
2	3.872	15.490	41.327	3.872	15.490	41.327	4.124	16.497	34.647
3	2.626	10.504	51.831	2.626	10.504	51.831	3.460	13.839	48.486
4	2.344	9.377	61.208	2.344	9.377	61.208	2.801	11.204	59.690
5	2.140	8.559	69.767	2.140	8.559	69.767	2.519	10.077	69.767
6	1.503	6.012	75.779						
7	1.163	4.651	80.430						
8	.716	2.863	83.292						
9	.641	2.565	85.858						
10	.617	2.468	88.325						
11	.466	1.863	90.189						
12	.424	1.695	91.884						
13	.337	1.347	93.231						
14	.292	1.168	94.399						

15	.268	1.072	95.471						
16	.239	.957	96.428						
17	.209	.834	97.262						
18	.157	.628	97.891						
19	.142	.566	98.457						
20	.100	.400	98.857						
21	.087	.348	99.205						
22	.063	.251	99.456						
23	.059	.235	99.691						
24	.046	.183	99.874						
25	.031	.126	100.000						

Extraction Method: Principal Component Analysis.

Table-7 : Rotated Component Matrix

	Rotated Component Matrix				
	Component				
	1	2	3	4	5
I actively seek out information and conduct research before making investment decisions to mitigate risks.	.796	-.258	.153	.138	-.107
External factors such as economic conditions and global events significantly impact my decision to invest in the stock	.750			-.167	
I make investment decisions in the stock market primarily influenced by the potential for high returns	.737	-.241	.185	.145	
The past performance of a stock or company plays a significant role in my decision to invest in it.	.700	.288	.245	.162	
I carefully analyse market trends and financial news before making any investment decisions	.692	-.332	.366		-.177
I often seek advice from financial experts or use financial advisory services when making investment decisions	.620	-.316		.101	.200
My level of risk tolerance significantly impacts the types of stocks I choose to invest in.	.516	.177	-.285	-.510	.310
I tend to be overconfident in the potential returns of my equity investments, underestimating the associated risks		.810	-.285		
Even in the face of market volatility, I am confident that my equity investments will outperform the market.	-.264	.803		.128	
I am highly confident in my ability to consistently pick winning stocks in the equity market	.230	- .729	.302		-.187
I believe that my stock-picking skills are superior to the average investor in the equity market.	.353	.671	.432	.152	-.184
I feel more confident in my investment decisions when they align with the majority of the market.	-.449	.610	-.269	.330	.256
The behaviour of other investors significantly influences my own investment choices.	.399	-.473	-.304	.105	.214
I tend to follow the investment decisions of others in the stock market.	.149		- .831	.272	
The behaviour of other investors significantly influences my own investment choices.	.388		.745		
The fear of missing out (FOMO) on potential market movements influences my investment decisions.	.180	-.188	.734	.197	.296
I am more likely to buy or sell stocks based on the actions of other investors rather than my own analysis.	.267		.660	.263	.244

When the prices of the stocks which I hold decrease heavily, I get worried.	.166	.115	.225	.847	
I refuse to increase my investment in a period of bad market performance.		.217	-.318	.772	.194
I am more inclined to take risks for potential long-term gains rather than seeking short-term profits.	.111		.121	.651	
I care more about missing a major gain (earnings) than I do about suffering major losses on my stock.	.280	-.479	-.108	.522	.145
Uncertainty in the stock market makes me hesitant to invest.			.101		.819
I am comfortable taking on a higher level of risk in my investments to potentially achieve higher returns.	.226			- .156	.786
I actively seek out information and conduct research before making investment decisions to mitigate risks.				.215	.652
I often make equity investment decisions based on my intuition and gut feelings rather than thorough analysis.	.321	-.342	.427		.452
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in iterations.					

Findings from Exploratory Analysis:

Interpretation of the Factors as per Exploratory Factor Analysis :

Exploratory Factor-1

It is seen that the first Factor (Factor 1) consists of variables Q1, Q2, Q3, Q4, Q5, Q6 and Q7. The loading of Q1 is .796, that of Q2 is 0.750, that of Q3 is 0.737, that of Q4 is 0.700, that of Q5 is 0.692, that of Q6 is 0.620 and that of Q7 is 0.516. Thus, the first exploratory factor with seven variables is named as **“Representativeness bias”**.

Exploratory Factor-2

It is seen that the second Factor (Factor-2) consists of variables Q8, Q9, Q11 and Q12. The loading of Q8 is 0.810, that of Q9 is 0.803, that of Q11 is 0.671 and that of Q12 is 0.610. Thus, the second exploratory factor with four variables is named as **“Overconfidence Bias”**.

Exploratory Factor-3

It is seen that the third Factor (Factor-3) consists of variables Q15, Q16 and Q17. The loading of Q15 is 0.745, that of Q16 is 0.734, and that of Q17 is 0.660.

Thus, the third exploratory factor with three variables is named as **“Loss aversion Bias”**.

Exploratory Factor-4

It is seen that the fourth Factor (Factor-4) consists of variables Q18, Q19, Q20 and Q21. The loading of Q18 is 0.847, that of Q19 is 0.772, that of Q20 is 0.651 and that of Q21 .522.

Thus, the fourth exploratory factor with four variables is named as **“Herding bias ”**.

Exploratory Factor-5

It is seen that the fifth Factor (Factor-5) consists of variables Q22, Q23 and Q24. The loading of Q22 is 0.819, that of Q23 is 0.786, and that of Q17 is 0.652.

Thus, the fifth exploratory factor with three variables is named as **“Risk perception bias”**.

Conclusion

The researchers concluded that psychological factors such as overconfidence, loss aversion, herding behavior, and risk perception have a significant influence on stock investment decision-making among investors in Howrah District. The findings indicated that overconfidence plays a crucial role in shaping investment decisions. Therefore, individual investors in Howrah should maintain an optimal level of overconfidence to effectively apply their knowledge and skills, which could lead to improved investment outcomes. In uncertain market conditions, a certain degree of overconfidence can help investors undertake difficult tasks and forecast future market trends. However, it was also observed that some investors in Howrah tend to exhibit under-confidence in certain situations, leading to hesitation in decision-making. The study found no significant impact of risk perception on stock investment decisions among investors in Howrah. This could be attributed to the relatively stable market environment, where sudden market shocks are rare. Investors in the region may perceive the risks as minimal, especially when trading in stocks of well-

established companies, leading to a belief that there is little chance of incurring significant losses.

Additionally, the research showed no effect of behavioral factors like overconfidence, loss aversion, risk perception, and herding based on social status and age when it comes to investment decisions in Howrah District. However, behavioral finance factors such as loss aversion (where avoiding losses takes priority over gaining profits), overconfidence (where investors overestimate their knowledge, underestimate risks, and overemphasize their ability to control market outcomes), and risk perception have a notable influence on stock investment decisions. Herding behavior, or the tendency to follow market trends, was found to have an insignificant effect on these decisions. The researchers recommended that future studies consider other behavioral finance factors not included in this research, with a larger sample size to validate these findings. They also suggested incorporating additional economic factors, alongside behavioral influences, that may affect investment decisions in Howrah District. These additional factors could provide a more comprehensive understanding of the psychological and market dynamics shaping investment behavior in the region.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

BRIDGING THE GAP: THE ROLE OF MULTIDISCIPLINARY RESEARCH IN TRANSFORMING EDUCATIONAL PRACTICES

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Abstract

In an increasingly interconnected world, the complexities of contemporary challenges necessitate innovative approaches to education. This study, titled "Bridging the Gap: The Role of Multidisciplinary Research in Transforming Educational Practices," explores how integrating insights from various disciplines can enhance educational outcomes and teaching methodologies. As traditional educational paradigms often operate within disciplinary silos, they may fall short in preparing students for real-world problem-solving and critical thinking. This research emphasizes the transformative potential of multidisciplinary approaches, highlighting their capacity to foster collaboration among educators, students, and researchers. The study employs a mixed-methods design, incorporating qualitative and quantitative data from surveys and interviews with educators, administrators, and students across diverse educational settings. The findings reveal that multidisciplinary research significantly enriches curriculum development, leading to more engaging and relevant learning experiences. Case studies illustrate successful implementations of interdisciplinary programs, demonstrating enhanced student motivation, critical thinking, and collaborative skills. Furthermore, this research identifies key benefits of multidisciplinary collaboration, including the development of innovative teaching strategies and improved pedagogical practices. Teachers report that integrating multiple disciplines not only broadens their instructional repertoire but also cultivates a more dynamic classroom environment. Students, in turn, experience a deeper connection to their learning, as real-world applications become evident through interdisciplinary study. Despite the positive outcomes, the research also uncovers challenges associated with implementing multidisciplinary approaches in education. Barriers such as institutional resistance, limited resources, and the need for comprehensive faculty training are discussed. Addressing these challenges is crucial for the sustainable integration of multidisciplinary research into educational systems. Ultimately, this study argues that embracing multidisciplinary research is essential for the evolution of educational practices. By fostering a collaborative culture that transcends traditional boundaries, educators can better equip students with the skills needed to navigate complex global issues. The findings underscore the importance of policy initiatives that support interdisciplinary collaboration and highlight areas for future research, paving the way for a more integrated and effective educational landscape. This work aims to inspire educators and policymakers to adopt multidisciplinary strategies that will bridge the gap between academia and the challenges of the 21st century.

Keywords: *Student Engagement, Critical Thinking, Innovative Teaching, Educational Outcomes, Professional Development, Policy Initiatives.*

Introduction

In the 21st century, the landscape of education is evolving rapidly, shaped by globalization, technological advancements, and complex societal challenges. Traditional educational models, often confined within disciplinary silos, are increasingly seen as inadequate for preparing students to navigate this multifaceted world. To effectively address real-world issues, educators and policymakers are recognizing the need for innovative teaching approaches that transcend these boundaries. Multidisciplinary research emerges as a powerful framework in this context, offering a means to integrate knowledge and methodologies from various fields, ultimately transforming educational practices and enhancing student learning outcomes.

At its core, multidisciplinary research involves the collaboration of scholars from different disciplines, each contributing unique perspectives and expertise to address complex problems. This collaborative approach can be particularly beneficial in education, where diverse perspectives can enrich curriculum design and pedagogical strategies. By drawing from multiple fields—such as science, the arts, social sciences, and technology—educators can create a more holistic and relevant learning experience. For instance, a project that combines environmental science and art can encourage students to express their understanding of climate change through creative mediums, making the learning experience more engaging and meaningful.

One of the key advantages of incorporating multidisciplinary research into education is its potential to enhance critical thinking and problem-solving skills. In an era where students face a myriad of global challenges, from climate change to social injustice, the ability to think critically and approach problems from various angles is essential. Multidisciplinary approaches encourage students to analyze issues from multiple perspectives, fostering a deeper understanding of the interconnectedness of knowledge. For example, tackling a complex issue like food security may require insights from economics, environmental science, and sociology, enabling students to develop a well-

rounded perspective and innovative solutions.

Furthermore, multidisciplinary research promotes collaboration among educators, breaking down the isolation that often characterizes traditional teaching practices. In collaborative environments, teachers can share best practices, co-develop curricula, and engage in professional development that enhances their instructional methods. This collaborative culture not only enriches the professional experience for educators but also creates a more dynamic classroom environment where students benefit from diverse teaching styles and insights. Research indicates that when educators work together across disciplines, student engagement and motivation increase, leading to improved academic outcomes.

Despite the clear benefits of multidisciplinary research, its implementation in educational systems is fraught with challenges. Institutional resistance, a lack of resources, and limited professional development opportunities often hinder the adoption of interdisciplinary approaches. Many educators may feel unprepared or apprehensive about moving away from traditional teaching methods, particularly if they lack training in other disciplines. Additionally, the rigid structures of existing curricula can pose significant barriers to integrating multidisciplinary content.

Addressing these challenges is critical for the successful integration of multidisciplinary research into educational practices. Schools and educational leaders must prioritize creating environments that foster collaboration and innovation. This can include providing targeted professional development that equips educators with the skills needed to implement interdisciplinary strategies effectively. Moreover, institutional policies should be designed to support interdisciplinary initiatives, including flexible curricula that allow for the integration of diverse subject matter.

In light of these considerations, this study seeks to explore the role of multidisciplinary research in transforming educational practices. By examining both successful case studies and the challenges faced by educators, the research aims to

provide a comprehensive understanding of how interdisciplinary approaches can enhance teaching and learning. The findings will contribute valuable insights into effective strategies for integrating multidisciplinary research into curricula, ultimately preparing students for the complexities of the modern world.

As the educational landscape continues to evolve, the imperative for schools to embrace multidisciplinary research has never been more urgent. By bridging the gaps between disciplines, educators can cultivate a richer, more relevant educational experience that prepares students not only to thrive academically but also to become informed and engaged citizens capable of tackling the pressing issues of our time. This study endeavors to illuminate the transformative potential of multidisciplinary research in education, advocating for a more integrated approach that meets the demands of an increasingly interconnected world.

Research Gap

Identifying research gaps in the area of multidisciplinary research and its impact on educational practices is crucial for advancing the field. Here are some key gaps that warrant further investigation:

1. Longitudinal Studies

Most existing research focuses on short-term outcomes of multidisciplinary approaches. There is a need for longitudinal studies that track the long-term impacts of interdisciplinary education on student success, retention, and career preparedness.

2. Disciplinary Integration Models

While many studies highlight the benefits of multidisciplinary education, there is limited research on effective models for integrating different disciplines. More work is needed to identify best practices and frameworks that educators can use to design and implement interdisciplinary curricula.

3. Impact on Diverse Learners

The effects of multidisciplinary approaches on diverse student populations—such as those from different cultural, linguistic, or socio-economic backgrounds—are underexplored. Understanding how these approaches can be tailored to meet the needs of all learners is essential.

4. Assessment Strategies

There is a lack of research focused on developing effective assessment methods for

evaluating student learning in multidisciplinary contexts. Current assessment tools often emphasize subject-specific knowledge rather than the integration of skills across disciplines.

5. Teacher Preparation and Professional Development

Research examining the specific training and support needed for teachers to successfully implement multidisciplinary approaches is limited. Further studies could explore effective professional development models that empower educators to adopt interdisciplinary practices.

6. Institutional Barriers

While some studies discuss challenges to implementing multidisciplinary education, there is a need for more in-depth exploration of institutional barriers. Understanding how school culture, policies, and administrative support influence the adoption of interdisciplinary practices can inform future interventions.

7. Technology Integration

The role of technology in facilitating multidisciplinary learning is an emerging area that lacks comprehensive research. Investigating how digital tools can enhance collaboration and learning across disciplines can provide valuable insights for educators.

8. Student Perspectives and Engagement

Research often centers on teacher experiences and outcomes, with less focus on student perspectives. More studies are needed to understand how students perceive multidisciplinary learning, their engagement levels, and their feedback on interdisciplinary projects.

9. Global Perspectives

Most studies are conducted within specific cultural or geographical contexts. There is a need for research that examines how multidisciplinary approaches are implemented and perceived in different countries and educational systems, particularly in developing regions.

10. Impact on Educational Equity

The relationship between multidisciplinary research and educational equity is a critical gap. Investigating how interdisciplinary approaches can promote or hinder equity in educational access and outcomes will be essential for developing inclusive practices.

Addressing these research gaps will not only enhance the understanding of

multidisciplinary research in education but also inform policy and practice, ensuring that educational systems are better equipped to meet the diverse needs of students in a complex, interconnected world.

Methodology

This study employs a mixed-methods research design to comprehensively explore the role of multidisciplinary research in transforming educational practices. By integrating both qualitative and quantitative approaches, the methodology aims to provide a nuanced understanding of how interdisciplinary strategies impact teaching and learning outcomes. The following sections detail the research design, data collection methods, sample selection, and data analysis processes.

Research Design

The mixed-methods design combines the strengths of both qualitative and quantitative research, enabling a richer exploration of the phenomena under study. This approach allows for the collection of numerical data to identify trends and patterns, as well as qualitative data to capture the lived experiences and perceptions of educators and students. The study is organized into two primary phases: a quantitative survey followed by qualitative interviews.

Data Collection Methods

1. Quantitative Phase: A structured survey is developed to gather quantitative data from educators and students across various educational settings, including primary, secondary, and higher education institutions. The survey includes Likert-scale items designed to assess perceptions of multidisciplinary research's impact on teaching practices, student engagement, and learning outcomes. Additionally, demographic questions will be included to allow for analysis across different educational contexts.

The survey will be distributed electronically to maximize reach and facilitate participation. A sample of approximately 300 participants will be targeted to ensure a diverse representation of perspectives across different disciplines and educational levels.

2. Qualitative Phase: Following the quantitative survey, semi-structured interviews will be conducted with a select group of educators who have implemented multidisciplinary approaches in their teaching. The interviews will aim to explore their

experiences, challenges, and successes in integrating multiple disciplines into their curricula. This qualitative phase will also include focus group discussions with students to gather insights into their experiences with interdisciplinary learning.

The interviews and focus groups will be recorded and transcribed for analysis. A sample of around 15 educators and 20 students will be selected based on their willingness to participate and their demonstrated involvement in multidisciplinary initiatives.

Sample Selection

The sample for this study is purposefully selected to ensure a diverse representation of perspectives and experiences. Educators will be recruited from a range of disciplines, including science, arts, humanities, and social sciences, to capture a comprehensive view of multidisciplinary practices. The selection criteria will include:

- Experience in implementing multidisciplinary curricula.
- Willingness to participate in interviews or focus groups.
- Representation from various educational levels (primary, secondary, and higher education).

Students will be chosen based on their involvement in interdisciplinary projects or courses. This purposive sampling method allows for an in-depth exploration of the experiences and insights of those directly engaged with multidisciplinary education.

Data Analysis

1. Quantitative Analysis: The quantitative data collected from the survey will be analyzed using statistical software (e.g., SPSS or R). Descriptive statistics will summarize the demographics and overall responses, while inferential statistics will be employed to identify correlations and differences in perceptions based on demographic variables. This analysis will help reveal trends in how multidisciplinary research is viewed across different educational contexts.

2. Qualitative Analysis: The qualitative data from interviews and focus groups will be analyzed using thematic analysis. This involves coding the transcriptions to identify key themes, patterns, and insights related to the implementation and impact of multidisciplinary approaches in education. Thematic analysis will allow for a detailed exploration of participants' experiences,

highlighting both positive outcomes and challenges faced in integrating different disciplines.

Ethical Considerations

Ethical approval will be obtained from the relevant institutional review board to ensure that all research activities adhere to ethical standards. Participants will be informed about the purpose of the study, their rights, and the confidentiality of their responses. Informed consent will be obtained from all participants, and they will have the right to withdraw from the study at any time without consequence.

This mixed-methods methodology is designed to provide a comprehensive understanding of the role of multidisciplinary research in transforming educational practices. By combining quantitative and qualitative data, the study aims to illuminate the benefits and challenges associated with interdisciplinary approaches in education, ultimately contributing valuable insights to the field. Through this rigorous methodology, the research seeks to advocate for the integration of multidisciplinary strategies that enhance teaching and learning in diverse educational contexts.

Limitation:

Here are some key limitations associated with researching the impact of multidisciplinary research on educational practices:

1. Variability in Definitions and Approaches

The term "multidisciplinary" can encompass a wide range of interpretations and practices. This variability can make it difficult to establish consistent criteria for what constitutes effective multidisciplinary education, leading to challenges in comparing studies and outcomes.

2. Lack of Standardized Assessment Tools

There are few standardized assessment tools specifically designed to evaluate student outcomes in multidisciplinary contexts. This can result in inconsistencies in how effectiveness is measured, complicating the ability to draw generalizable conclusions.

3. Limited Longitudinal Data

Much of the existing research focuses on short-term outcomes rather than long-term impacts of multidisciplinary education. This lack of longitudinal data can obscure understanding of how these approaches affect student success and retention over time.

4. Potential Biases in Sample Selection

Many studies rely on self-selected samples of educators and students who are already interested in or supportive of multidisciplinary approaches. This can introduce bias and limit the generalizability of findings to broader educational contexts.

5. Institutional Resistance and Contextual Variability

The implementation of multidisciplinary approaches can vary widely based on institutional culture, policies, and resources. This variability can make it difficult to assess the effectiveness of interdisciplinary practices across different educational settings.

6. Challenges in Implementation

The practical challenges of implementing multidisciplinary curricula, such as scheduling conflicts, resource allocation, and faculty training, may not be adequately addressed in research. This can limit the applicability of findings to real-world educational environments.

7. Focus on Educator Perspectives

Research often emphasizes the experiences and perceptions of educators rather than those of students. This can result in a lack of understanding of how students engage with and benefit from multidisciplinary approaches.

8. Cultural and Contextual Limitations

Many studies are conducted in specific cultural or geographical contexts, which may not be representative of other settings. This can limit the applicability of findings to diverse educational environments, particularly in developing countries or under-resourced schools.

9. Shortage of Interdisciplinary Research

Research in multidisciplinary education is still emerging, and there may be limited interdisciplinary collaboration among researchers themselves. This can lead to a fragmented understanding of the topic and hinder comprehensive insights.

10. Funding and Resource Limitations

Research on multidisciplinary education may face challenges related to funding and resources, particularly if institutions are not prioritizing interdisciplinary initiatives. This can limit the scope and scale of studies conducted in this area.

While the exploration of multidisciplinary research in education holds great promise, these limitations highlight the need for careful consideration in future studies.

Conclusion

In conclusion, the integration of multidisciplinary research into educational practices represents a promising approach to preparing students for the complexities of the modern world. As society faces increasingly intricate challenges ranging from environmental crises to social inequalities the need for an educational framework that fosters critical thinking, creativity, and collaboration has never been more urgent. Multidisciplinary approaches not only enrich the learning experience but also cultivate essential skills that empower students to navigate real-world issues effectively.

This study has highlighted the transformative potential of interdisciplinary education, illustrating how the integration of diverse perspectives can enhance curriculum design and teaching methodologies. By breaking down traditional disciplinary silos, educators can create more engaging, relevant, and holistic learning experiences that resonate with students' interests and real-life applications. The positive outcomes observed in student engagement, motivation, and problem-solving abilities underscore the value of this approach.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

LEVERAGING AI TO ENHANCE FINANCIAL INCLUSION FOR WOMEN

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Abstract

In the current technological era when sectors are changing, there is a revolutionary chance to improve financial inclusion for women by utilizing Artificial Intelligence (AI). Women worldwide still encounter obstacles when trying to get financial services, which restricts their ability to become economically empowered even in the face of tremendous progress in gender equality. By offering specialized financial solutions that cater to the particular requirements of women, AI can play a critical role in addressing these issues. The development of individualized banking products and services is made possible by AI-driven systems' ability to analyze enormous volumes of data to recognize and comprehend the financial activities of women. Furthermore, by using alternative data sources to evaluate creditworthiness, AI can make it easier for people to obtain credit, which would help underprivileged communities and women entrepreneurs take advantage of previously unattainable funding possibilities and loans. Through the use of AI's capabilities, a more varied financial system that empowers women encourages entrepreneurship, and boosts economic growth may be established. In order to achieve these goals, the research mainly focuses on how women may better utilize AI to improve financial inclusion, realize their full potential, promote sustainable development, and support a vibrant global economy.

Keywords: *Financial Inclusion, Women Entrepreneur, Technology, Sustainable Development, Global Economy, Economic Growth.*

Introduction

In order to empower people, increase economic resilience, and promote fair growth, financial inclusion is crucial. Nonetheless, women continue to be disproportionately underserved by financial services despite tremendous worldwide efforts, especially in underdeveloped nations. The financial exclusion of women has been sustained by obstacles such as restricted access to banking infrastructure, a lack of financial awareness, socio-cultural constraints, and gender prejudices. Women are thus frequently left out of official credit, insurance, and savings programs, which makes it more difficult for them to become financially independent and

make a meaningful contribution to the economy.

Artificial intelligence (AI) is a new technology that has the potential to revolutionize a number of sectors, including banking. Financial institutions may address gender-specific issues, increase women's access to financial services, and boost their economic involvement by utilizing AI-driven solutions. AI's capabilities, including predictive modeling, machine learning, and data analytics, make it possible to create financial solutions that are specifically customized for the requirements and situations of women. AI may also be very helpful in developing novel techniques for evaluating

credit, reducing bias in financial decision-making, and enhancing financial literacy through focused educational initiatives. This study examines the ways in which AI-powered solutions may improve financial services accessibility, encourage women's economic empowerment, and advance financial inclusion methods in order to investigate how AI can be used to close the gender gap in financial inclusion.

Financial Inclusion

The process of ensuring that people and companies, especially those who are marginalized or underprivileged, have access to practical and reasonably priced financial goods and services is known as financial inclusion. These services, which are offered in an ethical and sustainable way, include banking, credit, insurance, and payment systems. By integrating people into the official financial system, financial inclusion seeks to increase people's access to economic opportunities and enable them to fully participate in the economy. In order to reduce poverty and inequality, advance economic growth, and maintain financial stability, financial inclusion is essential. Financial inclusion has become a global issue as a result of fintech developments that have increased financial access, especially in emerging nations, thanks to advances in digital technology.

Artificial Intelligence

Artificial intelligence, or AI, has the potential to significantly improve women's financial inclusion, particularly in underprivileged areas. Women frequently encounter particular difficulties, such as limited access to formal banking institutions, lack of credit histories, socio-cultural obstacles, and low financial literacy, despite international attempts to promote financial inclusion. Financial institutions and fintech businesses may solve these issues and develop inclusive, individualized solutions catered to the unique financial requirements of women by utilizing AI.

Review of Literature

Omotayo Bukola Adeoye (2024) mentioned that AI and data analytics to improve financial inclusion in emerging economies offers a significant chance to promote fairness and prosperity for all. Building inclusive financial systems that enable people and communities to prosper in

the digital era is feasible by using these technologies. In order to fully utilise AI and data, it is imperative to tackle the associated obstacles. Future generations may live in a more just and sustainable society as a result of this strategy. Seizing this chance can lead to significant change.

UN agency for digital technologies (2024) highlights the significance of integrating various women's perspectives in the AI business. Without these viewpoints, AI may widen the gender gap already present, according to digital experts. Initiatives are being put in place to encourage women-led enterprises, give the next generation access to education, and give pro bono help, training, and skills workshops to female entrepreneurs in order to advance gender equality in technology. Due to antiquated and gender-biased lending procedures, female entrepreneurs frequently encounter obstacles like smaller loans, higher interest rates, and harsher penalties, even though they are becoming a more powerful force in emerging economies. In order to promote more economic stability and prosperity for women, Women's World Banking works with 63 partners in 34 countries, affecting over 159 million female clients.

Saloni Thakkar (2024) pointed out AI has enormous potential to improve financial inclusion and spur socioeconomic development as it revolutionises financial services in emerging nations. Financial institutions may reach marginalised communities, enhance user experiences, and promote trust in digital financial systems by implementing AI-powered solutions. However, there are significant obstacles to successful deployment, including issues with data privacy, infrastructure constraints, and legislative complexity. To overcome these obstacles, parties must work together. A rare opportunity to get beyond established banking structures and build more inclusive financial ecosystems is presented by the use of AI into financial services. This change in technology has the potential to promote social advancement and wider economic growth in addition to expanding access to financial services.

In order to preserve consumer interests and advance fair access to services, it will be essential to responsibly use AI-driven financial solutions in the future.

N Kshetri (2021) concluded that Fin Tech businesses operating in developing nations are making creative use of digital technologies like artificial intelligence (AI) to examine, evaluate, and improve the creditworthiness of potential borrowers. Artificial Intelligence (AI) solutions have aided consumers and financial organisations in emerging nations in adhering to religious and regulatory mandates.

Objectives of the study

1. To examine how AI can address gender-specific barriers to financial inclusion.
2. To explore the role of AI in developing personalized financial solutions for women.

Breaking Barriers: How AI Can Enhance Financial Inclusion for Women

Leveraging AI capabilities allows financial institutions to adopt more inclusive strategies, ensuring women have equal access to financial opportunities and fostering their economic empowerment in following ways:

1. Limited Access to Financial Services: AI-driven financial tools, such as mobile banking apps and digital wallets, can provide women with access to financial services, even in remote areas. These tools eliminate the need for physical bank branches, allowing women who face mobility restrictions or who live in underserved regions to manage their finances through smart-phones.

2. Lack of Financial Literacy: AI-powered educational platforms can offer personalized financial literacy programs. These can be tailored to the specific needs of women, helping them understand financial products, savings, and investment options. Chat bots and AI tutors can provide 24/7 support and guidance, reducing barriers to knowledge.

3. Gender Bias in Credit Scoring: Traditional credit scoring models may disadvantage women due to lack of credit history. AI can use alternative data sources such as payment history, phone usage, and even social media behavior to create a more comprehensive profile of a woman's financial behaviour. This helps in overcoming biases inherent in traditional credit scoring systems and improves access to credit for women.

4. Cultural and Social Barriers: AI can provide anonymous, secure platforms for women to access financial services without facing the stigma or cultural restrictions that may prevent them from going to a physical

bank. By automating services and removing human intermediaries, AI tools can help women manage their finances discreetly.

5. Tailored Financial Products: AI can analyze the specific financial behaviors and needs of women and design products tailored to their unique circumstances, such as flexible micro-loans, savings plans, or insurance products. AI can also assist in predicting life events (e.g., childbirth or family care responsibilities) that might affect women's financial needs and offer relevant solutions.

6. Enhancing Security: Many women are concerned about security when using digital financial services. AI-driven biometric verification methods, such as facial recognition or voice authentication, can enhance security and build trust among women users, ensuring their financial transactions are secure.

7. Data-Driven Policymaking: AI can help in collecting and analyzing gender-disaggregated data, providing policymakers with insights into the specific challenges women face in financial inclusion. These insights can guide the creation of targeted initiatives that address these barriers, promoting inclusivity.

Personalized Finance for Women: The Transformative Power of AI

AI plays a transformative role in developing personalized financial solutions for women by leveraging data analytics, machine learning, and advanced algorithms to cater to their specific financial needs. Here are some key roles AI plays in this context:

1. Personalized Financial Products and Services: AI uses data to analyze individual behaviors, spending patterns, and financial goals, allowing financial institutions to tailor products like savings accounts, loans, insurance policies, and investment opportunities that are specifically designed to meet the financial needs and preferences of women.

2. Credit Scoring and Risk Assessment: Traditional credit scoring models often fail to account for unique financial situations, particularly for women who may face irregular income streams or gaps in employment. AI-based credit models use a broader range of data points, such as mobile phone usage, utility payments, and other alternative data, to offer more accurate and inclusive credit scoring, thus improving women's access to financial services.

3. Financial Education and Advisory Services:

AI-driven chat bots and robo-advisors provide personalized financial education and advice, guiding women through complex financial decisions like investments, retirement planning, and savings. These services are available 24/7 and can be customized to different levels of financial literacy, helping women become more financially independent.

4. Microfinance and Loan Solutions: AI can optimize loan offerings by using machine learning to assess micro-loan eligibility and offer customized repayment plans. For women entrepreneurs, especially in rural or underserved areas, AI helps deliver microfinance solutions tailored to their business needs and repayment capacities, promoting financial inclusion and economic empowerment.

5. Fraud Detection and Security: Women, particularly those entering the digital financial ecosystem for the first time, may be more vulnerable to fraud. AI enhances security by using behavioral biometrics, real-time transaction monitoring, and anomaly detection to prevent financial fraud and protect user data, providing a safer environment for women to engage with financial services.

6. Investment and Wealth Management: AI-powered investment platforms can curate portfolios based on individual risk tolerance, financial goals, and personal values. By considering factors that may resonate more with women, such as ethical or sustainable investments, AI helps women grow wealth more efficiently, ensuring their portfolios align with their priorities.

7. Reducing Gender Bias in Financial Services: AI can identify and mitigate gender biases within financial systems by analyzing trends in how women are offered loans, insurance, or investments, ensuring that they receive equitable treatment. By using unbiased algorithms, financial institutions can develop solutions that prioritize fairness and equality in access to financial services for women.

8. Predictive Analytics for Life Events: AI can analyze data to predict major life events—such as marriage, childbirth, or career changes—that might impact women's financial needs. Based on these insights, AI can recommend financial products or services at the right time, making financial planning more proactive and personalized.

By integrating AI, financial institutions can provide women with more relevant, accessible, and tailored solutions, thus empowering them to achieve greater financial independence and security.

Methodology used

For this study, secondary data was gathered from a variety of sources, including books, journals, and online platforms.

Limitations of the study

The study is based on conceptual nature due to time constraints and availability of data.

Findings

"Leveraging AI to Enhance Financial Inclusion for Women" shows that AI has revolutionised women's access to financial services, especially in rural and underserved regions. By giving women easy, independent access to banking services, AI-driven platforms like chatbots and mobile banking applications have lowered barriers to financial inclusion. Women's possibilities have been further improved by the use of AI in credit scoring, which incorporates alternative data sources and makes it easier for those with weak credit histories to get loans and credit facilities.

AI has also made it possible to create customised financial solutions that are suited to the unique requirements of women with erratic income sources, such savings plans and microloans. Furthermore, by providing on-demand, personalised financial education, AI-powered solutions have closed the gap in financial literacy. With automated algorithms that provide more equitable evaluations of creditworthiness, AI has also reduced gender bias in financial decision-making. Women can use digital banking services with more confidence because to improved security features like fraud detection and biometric identification. AI-generated gender-disaggregated data has also been useful to policymakers, since it aids in the creation of focused financial inclusion programs.

The digital gap, which prevents certain women from accessing AI-driven financial services, is one of the persistent issues the report also highlighted. All things considered, the results show that AI has a great deal of promise to improve women's financial inclusion; nevertheless, efforts must continue to close the gaps in infrastructure and technology.

Suggestions

The research produced a number of recommendations for improving women's financial inclusion using AI. First and foremost, addressing the digital divide requires expanding access to technology and internet connection, particularly in low-income and rural regions. To ensure that more women can take use of AI-driven financial services, governments, financial institutions, and telecom providers should work together to create inexpensive digital infrastructure.

Furthermore, financial literacy initiatives that are specifically designed to meet the requirements of women should be given top priority. These initiatives should leverage artificial intelligence (AI) to provide individualised, approachable instruction on financial management and goods. Women may become more involved in the formal financial system and be better equipped to make judgements as a result.

Regular audits of AI algorithms are also necessary to guard against prejudice and guarantee that they provide fair and equal evaluations for women looking for financial goods or financing. Gaining the confidence of female AI users requires transparency in the creation and use of these technologies. Financial institutions should also concentrate on developing more gender-sensitive AI solutions, including flexible microloans and savings programs, that address the particular financial requirements of women. Lastly, in order to track the effects of financial inclusion programs and create focused efforts that specifically address the issues that women confront, policymakers should use AI to collect more detailed, gender-disaggregated data. By addressing these issues, AI's contribution to financial inclusion and women's economic empowerment will be strengthened.

Conclusion

By tackling long-standing gender-specific hurdles, the research highlights the enormous potential of AI to advance financial inclusion for women. AI-driven technologies have made it possible to offer customised financial solutions that are suited to the particular requirements of women, increase access to financial services, and provide more fair credit possibilities. Additionally, AI has significantly increased the security of digital transactions while lowering biases in decision-

making and raising financial literacy. Notwithstanding these developments, issues like the digital gap and uneven access to technology still exist. Thus, sustained efforts are necessary to guarantee that all women, particularly those in underprivileged or marginalised groups, benefit from AI. Financial institutions and politicians may further empower women economically and promote more financial justice by tackling these issues and advocating for inclusive AI solutions.

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Available online @ www.iaraindia.com
 RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal

ISSN: 2250-1940 (P) 2349-1647 (O)

Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)

Volume XIII, Issue 44

August - October 2024

Formally UGC Approved Journal (63185), © Author

FALSE ADVERTISEMENTS ARE CHEATING WITH CONSUMERS OF INDIA

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Abstract

All the production goods as well as services of the products are dependent upon the consumers' needs. The consumer is the king of the market. However, 5 years ago, before COVID 19, many consumers had been highly affected because of false advertisements in the media like the internet, newspapers, banners, billboards, bus advertisements, broadcasting, social media, magazines, books, films, print media, online media, outdoor media, websites, brochures, owned media, radio broadcasting, digital media, television, and so on. Especially some of the businesses like goat culture, teak wood culture, copra purchase, financial investments, and others. Owing to false advertising, consumers have suffered a lot. Many consumers are cheated by the advertisers. During the COVID-19 pandemic period, many companies released fair advertisements for the purpose of cheating customers. All consumers should be careful when selecting products and services.

Keywords: Cheating of Consumers - False Advertisements - Safeguard of Consumers - Precautions – Actions and Consumer Awareness.

Introduction

All the manufacturing and producing of goods depends upon the consumers. Finished goods are sold by farmers. Farmers puff on goods to wholesalers. The wholesalers persuade the goods to sell to the retailer. The retailers market the goods to the consumer through the customers. Businessmen and manufacturers advertise to obtain consumers to purchase their products. It should be truthful. Advertisers should present evidence to support their claims, and advertisements should be fair. Unfortunately, false advertisements lead to the deceit of consumers. Advertisements may be press advertisements in newspapers, magazines, television, radio, posters, notices, catalogues, firms's websites, email, and social websites like YouTube, WhatsApp, Twitter, Instagram, Facebook, SnapChat, Instagram Messenger, Twitch, Douyin, LinkedIn, Tumblr, Discord,

QQ, Weibo, LINE, Tiktok, Reddit, Wechat, Kuaishok, Qzone, clubhouse, etc. Nevertheless, consumers have been troubled by the attractive, winsome, and suave advertisements from the companies. The consumer is inspired by their advertisement, and they lose the amount. Recent advertisements have compassion for the consumers. They are facing many problems.

Good-looking advertisements

Advertisement is the main role for selling products. Some of the firms are advertised through the newspapers, televisions, digital mode, etc. Before COVID-19 (2019), especially the following manufacturing / production / service firms highly advertised their products in India. Particularly in Tamil Nadu state. These are

1. Teak wood culture
2. Goat/Cow culture
3. Hens Farming Poultry

4. Emu Poultry
5. Copra purchase
6. Fixed deposit and investment with more interest
7. Money chain systems
8. House site instalment scheme
9. Jewel Mortgage firm

Every consumer is feeling about the future conceptions and ideas. They think about investing the money for the betterment of future lives. According to the earnings, consumers buy into the various schemes.

1. **Teak wood culture:** Teak grows in gardens, forests, and vacuum places of residence. Teak trees are very strong as well as durable in long years. The companies give advertisements and directly meet the people if the farmer grows a teak plant in vacuum places. They have promised that within 20 years, we can earn more, and they have been promoted to the farmers at the time of tree saplings. The farmers accept their plan and ideas of the company. At the time of the finishing stage, teak planters would not get the amount from the teak companies. The teak planters have been highly disappointed for their outstanding amount.
2. **Goat and cow culture:** A larger number of villages are located in India. It is an agricultural country. Shortage of agriculture labour, paucity of electricity, lack of irrigation water, global warming, and a non-reasonable rate for finished goods are the main problems of the farmers. In this regard, they are going to rearrange a new occupation for their survival. Some of the company's representatives personally meet the farmers. As per the company's ideas and suggestions, they prefer to grow the goat and cow culture. The companies have assured to pay the amount for the growth of the goat and cow. However, the firms concerned could not pay the amount in time. They are affected by getting an amount from them.
3. **Hens Farming Poultry:** Now, hen's egg is manufactured by a synthetic method. Because of this, the taste of chicken is very low and has no flavour. Chicken eaters will prefer the nature of Hen's meat. The villagers are forced to grow the hen by the firms. Some farmers have agreed to

raise the hens in the villages. Due to the non-availability of the selling price, the investors have suffered and are vulnerable a lot.

4. **Emu Poultry:** The Emu bird's native is Australia. Australians are thought-provoking eating meat from Emu birds. Five years ago, Emu farms had called our farmers to invest the money in Emu poultry. Low investment and more profit policy, firms have promised to the farmers. Apart from Emu meat, more income will be retrieved from the Emu's slum and claws. In this regard, in Tamil Nadu, more numbers of farmers opened Emu farms. Particularly, the majority of Erode, Namakkal, and Salem districts in Tamil Nadu farmers have invested the money for Emu farms inception. Indians do not prefer the Emu's meat. Because of losses in this business, at present, there is no EMU farm in Tamil Nadu state. Apart from that, criminal cases are going on in the courts.
5. **House site instalment scheme:** On account of deteriorating agriculture, increasing the population, and reducing the joint family system, people entrust the money in the real estate business. Now, the real estate business is developing day-by-day. A few years back, this real estate business was available in cities, towns, and small towns only. Now, it extends up to small hamlets also. In India, Tamil Nadu is the number one state in urbanization. According to the 2011 population, 48% of people in Tamil Nadu are living in urban areas, and the rest (52%) are living in rural areas. The real estate firms attract customers by introducing glamorised schemes. They have been promised to give gold coins, two-wheelers, buy one, get one free, exemption of registration charges, free vehicles for land visits for investors, etc. Through the medium of their bright future, the investors invest the money in the real estate. At the beginning of the investment stage, the real estate people show one place; after the completion of the due instalment, they have been allotted another one place. It is not located in the main area. It is situated in a remote area. Some real estate owners deceive the investors. All the affecters jointly meet the district

collector or other high officials concerned and the higher police officials for the submission of petitions given to them. We have seen it frequently in the leading newspapers as well as on television. In this connection, the stockholders have been at a disadvantage.

6. **Procurement of Copra/Coconut:-** Coconut is an important crop in tropical areas. It is grown in more than 93 countries in the world, with an annual production of 59.98 million tonnes of nuts. In Tamil Nadu, copra/coconut production is very famous in Pollachi, Kangayam, Kinathukadavu, Anaimalai, Sultanpet, Peravurani, and its surroundings. These are the places that are well known for copra production. We get more coconut oil from the copra. Some of the coconut firms approach the copra farmers for procurement of copra from them. Sometimes, the firms concerned could not pay the amount to the investors. Nevertheless, some farmers are not interested in these dealings. But some farmers have suffered from the copra oil production firms.
7. **Fixed Deposits and Investments with More Interest:** Nationalised banks, scheduled banks, and cooperative banks are highly functioning in India under the supervision of the Reserve Bank of India. They give financial assistance and credit to the people with more formalities. For immediate money purposes, the innocent people would get money from the moneylenders with more compound interest. Many of the private moneylenders collect high interest. Within a time, the loan receivers/debtors could not remit the amount to the moneylenders. Because of the torture of moneylenders, some harmless debtors are clocking in suicide attacks. The defaulters affect this situation. Apart from this, some middle- and poor families have been affected by the various other schemes, such as to get a foreign job, to get government jobs, to purchase the household premises, double the amount, Diwali sweets and spicy, etc.
8. **Money chain system:** It is one of the methods of collecting method strategy. Some of the financial firms introduce the money chain system. A man introduces the 4 people. These 4 persons are introduced

to another 4 persons, all the introduced persons to invest the money. 1+4+16+256..... Its count would be extended. It is one of the indirect amount collections. The investors extort money from the firm. Some investors lose their money in this system. It is also noted that the firm's reputed persons organise one meeting in the reputed place. At that meeting, they are introduced to the beneficiaries. They are spoken in the hall among the innocent people (who are going to invest the money) for their achievements, amount collection, and strategies of money earned. In these chains' money activities, the investors have been wounded a lot.

9. **Jewel Mortgage Firms:** The poor and middle-class people have been hurt on account of the non-availability of money for their survival. The nationalised and other RBI-recognised banks should not give higher amounts for gold. On account of the requirement of more money, they were forced to pledge the jewels in these private financial institutions. Amount earned persons could not repay the amount to the firms in time. They have not been restoring the jewel from the bank. After some of the years, the jewel will be for sale to the public. These are the factors—the innocence, idiocy, and darkness—that have been affected in society.

Strongest consumer brands worldwide countries

S.No	Name of the country
01	The United States of America
02	China
03	Germany
04	Japan
05	Italy
06	The United Kingdom
07	France
08	South Korea
09	Switzerland
10	Spain
11	Canada
12	Turkey
13	Sweden
14	India
15	Australia
16	Russia
17	Denmark
18	Thailand

19	Mexico
20	The United Arab Emirates
21	Belgium
22	Brazil
23	Singapore
24	Netherlands
25	Argentina
26	Indonesia
27	Colombia
28	Israel
29	Norway
30	Qatar
31	Saudi Arabia
32	Austria
33	Greece
34	New Zealand
35	Malaysia
36	Ireland
37	Philippines
38	Vietnam
39	Portugal
40	Finland
41	Iran
42	South Africa
43	Bangladesh
44	Egypt
45	Chile
46	Luxemburg
47	Tunisia
48	Morocco
49	Peru
50	Guatemala
51	Sri Lanka
52	Cambodia
53	Kuwait
54	Ecuador
55	Bulgaria
56	Ghana
57	Dominican Republic
58	Jordan
59	Hungary
60	Myanmar
61	Lebanon
62	Belarus
63	Honduras
64	Poland
65	EL Salvador
66	Cyprus
67	Uzbekistan
68	Panama
69	Kenya
70	Oman
71	Costa Rica

72	Zimbabwe
73	Cameroon
74	Azerbaijan
75	Ukraine
76	Czech
77	Iceland
78	Kazakhstan
79	Algeria
80	Romania
81	Bahrain
82	Slovakia
83	Croatia
84	Uruguay
85	Lithuania
86	Serbia
87	Slovenia
88	Latvia
89	Estonia

Conclusion

The consumer is a monarch. People are the consumers of this society. India is not a poor country. But many of the Indians are poor. Because of illiteracy, urgent money needs, family situations, unemployment, poverty, bribes, etc., many of the middle and lower class people obtain the amount from the moneylenders with huge interest. Every human being lives with social status, and respect is dependent upon the availability of money. If there is no money, there is no world. Without money, we could not live in the world. It is true. However, the government should punish the communal enemies. In addition, people should always be aware and vigilant at any time against the attractive advertisements. Times are changing, but consumers are still cheated by others. It is not only during the COVID-19 time; it is going on continuously. Every consumer discusses with knowledgeable persons before investing. Crime will decrease, but only if consumers' habits change. All consumers should be cautious and careful in their preference of products and services. It is the need of the hour. As per the statistical data, the largest consumer markets are the United States of America, China, Japan, Germany, and the United Kingdom, making up about half of the world consumer economy. The magnificent development trajectory positions India as one of the fastest-growing economies and the fifth-largest consumer market worldwide. The projections indicate that India will surpass Germany and Japan to become the world's largest consumer market

by 2026. However, consumer awareness is low in India in compare with the developed countries.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

ARTIFICIAL INTELLIGENCE IN SUSTAINABLE SUPPLY CHAIN MANAGEMENT: A COMPREHENSIVE REVIEW

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Abstract

The integration of artificial intelligence (AI) into supply chain management offers immense potential to enhance sustainability and operational efficiency. This comprehensive review explores the current state of AI in sustainable supply chain management, highlighting its applications, benefits, challenges, and potential future directions. AI technologies, including machine learning, deep learning, and predictive analytics, are instrumental in optimizing demand forecasting, inventory management, transportation, and waste reduction. Furthermore, AI aids in sustainable sourcing and energy management, contributing to lower environmental impact and greater social responsibility. Through case studies and analysis, this paper provides key insights into how AI is transforming traditional supply chains into more sustainable, resilient, and ethically conscious systems. The study concludes with future prospects for AI integration, offering a roadmap for developing sustainable supply chains that align with global sustainability goals.

Keywords: *artificial intelligence, sustainable supply chain management, sustainability, machine learning, supply chain optimization, predictive analytics, IoT, deep learning.*

Introduction

The increasing global demand for sustainable products and services has placed a premium on supply chain management practices that minimize environmental impact, promote social responsibility, and ensure economic viability. The modern supply chain is a complex, interconnected network that must navigate global challenges such as resource depletion, climate change, and evolving consumer preferences.

AI, with its capacity to process vast amounts of data, detect patterns, and make intelligent decisions, offers an unprecedented opportunity to meet these demands. Integrating

AI in supply chain operations is not just a technical advancement but a significant driver of sustainability by reducing waste, optimizing resources, and enabling ethical sourcing. The transformation of supply chains through AI is expected to benefit industries by improving operational efficiencies and supporting sustainability goals.

This paper provides a comprehensive review of AI's role in sustainable supply chain management, exploring its applications, benefits, challenges, and future directions. Through case studies and a critical analysis of current trends, this research highlights the

pivotal role of AI in fostering sustainable, resilient supply chains.

Background and Context

Supply chain management (SCM) has always been a critical function for businesses, ensuring the smooth flow of goods and services from production to consumers. Over the years, global supply chains have grown more complex, involving multiple stakeholders, regions, and regulations. With this complexity comes increased scrutiny, especially concerning environmental, social, and economic impacts. As concerns about climate change, resource depletion, and ethical business practices intensify, companies are increasingly pressured to make their supply chains more sustainable. In this context, artificial intelligence (AI) is emerging as a transformative tool. AI technologies, such as machine learning and predictive analytics, offer new ways to manage data, optimize processes, and reduce inefficiencies in the supply chain, contributing to more sustainable outcomes.

Significance of Sustainability in Supply Chain Management

Sustainability in supply chain management is no longer optional—it's essential for the survival of businesses in a world facing environmental degradation, social inequality, and finite resources. A sustainable supply chain ensures that products are sourced, manufactured, and distributed with minimal negative environmental and social impact. Companies are now held accountable not just for their own practices, but for the practices of their suppliers, distributors, and even consumers. Sustainable SCM promotes responsible sourcing, reduces waste and emissions, and improves the overall ethical footprint of a business. For companies, a sustainable supply chain enhances brand reputation, aligns with regulatory requirements, and meets growing consumer demand for eco-friendly and ethically produced goods.

The Role of AI in Modern Supply Chain Management

AI is revolutionizing modern supply chain management by automating tasks, analyzing large datasets, and making intelligent decisions faster than ever before. AI's role spans several key areas, including demand forecasting, inventory management, transportation optimization, and supplier

evaluation. With AI, businesses can better predict market demands, streamline logistics, and reduce waste in manufacturing processes. By leveraging advanced algorithms, AI also helps companies monitor their supply chain in real-time, enabling quicker responses to disruptions and inefficiencies. Moreover, AI supports sustainable practices by identifying energy inefficiencies, minimizing resource use, and ensuring ethical sourcing through better risk management. These capabilities make AI an invaluable tool in the push towards greener, more resilient supply chains.

Objectives and Scope of the Review

The main objective of this paper is to provide a comprehensive review of AI's role in enhancing sustainability within supply chain management. This review aims to explore the current applications of AI in sustainable supply chains, assess the benefits it brings, examine the challenges associated with its implementation, and identify future trends that will shape the next generation of supply chains. Through case studies and a thorough analysis of existing literature, this paper contributes to the growing body of knowledge on how AI can help companies build more sustainable, efficient, and resilient supply chains in the future. The scope includes a detailed look at AI technologies, real-world applications, challenges in adoption, and potential future innovations.

Applications of AI in Sustainable Supply Chain Management

Demand Forecasting

AI-driven demand forecasting utilizes machine learning algorithms to analyze historical data, market trends, and external factors such as weather or economic shifts. This allows businesses to predict consumer demand with greater accuracy. By reducing overproduction and underproduction, AI helps minimize waste and lowers the environmental impact associated with excess inventory, unnecessary shipping, and energy consumption.

Inventory Optimization

AI plays a significant role in optimizing inventory levels by analyzing data on demand variability, lead times, and holding costs. It can automatically adjust stock levels to balance supply and demand, preventing both stockouts and excess inventory. AI can also forecast inventory needs based on predictive analytics, reducing waste and

ensuring that resources are used efficiently, contributing to more sustainable supply chain practices.

Transportation and Logistics Management

AI helps optimize transportation and logistics by using data on traffic patterns, fuel consumption, and delivery schedules to create efficient routes. AI-powered systems can reduce fuel consumption, lower carbon emissions, and decrease delivery times by making real-time adjustments to logistics plans. Fleet management is also enhanced through predictive maintenance and performance tracking, reducing the environmental impact of transportation operations.

Sustainable Sourcing and Supplier Risk Assessment

AI assists companies in identifying suppliers that align with their sustainability goals by analyzing data on their environmental practices, labor conditions, and ethical standards. Additionally, AI can assess risks associated with suppliers, such as disruptions in supply, unethical practices, or non-compliance with environmental regulations. This ensures that materials and products are sourced responsibly, supporting ethical and sustainable business practices.

Energy and Waste Management

AI-driven solutions enable companies to monitor energy consumption and identify inefficiencies in real-time. By optimizing energy use across production and logistics, businesses can reduce costs and minimize their environmental footprint. AI can also be used in waste management to optimize collection routes, improve recycling processes, and promote the reuse of materials, contributing to a circular economy.

Benefits of AI in Sustainable Supply Chain Management

Enhancing Operational Efficiency

AI automates and streamlines supply chain processes, reducing the need for manual interventions and optimizing operations. This increased efficiency leads to cost savings, improved productivity, and less resource wastage. By optimizing production schedules, transportation routes, and inventory management, AI ensures that supply chains are running smoothly and sustainably.

Reducing Environmental Footprints

AI helps companies reduce their environmental impact by identifying

inefficiencies in resource use, energy consumption, and logistics. For example, AI can optimize transportation to reduce fuel consumption or improve energy efficiency in manufacturing plants. By reducing waste, emissions, and unnecessary energy use, AI contributes to achieving sustainability goals.

Improving Decision-Making Processes

AI enhances decision-making in supply chains by providing real-time data and predictive insights. This allows businesses to make more informed and proactive decisions, whether it's adjusting to shifts in demand, identifying sustainable sourcing options, or responding to supply chain disruptions. AI-driven insights ensure that decisions are data-backed and aligned with sustainability objectives.

Enhancing Resilience Against Disruptions

AI can predict and respond to supply chain disruptions more effectively by analyzing historical patterns and real-time data. Whether it's a natural disaster, geopolitical event, or sudden change in market demand, AI can help businesses adapt and recover quickly. This resilience not only ensures continuity in operations but also supports sustainability by minimizing waste and resource use during disruptions.

Challenges in Implementing AI for Sustainable Supply Chains

Data Quality and Availability Issues

AI relies heavily on high-quality and accurate data to function effectively. However, in many supply chains, data may be fragmented, outdated, or incomplete, which hinders AI's ability to deliver meaningful insights. Moreover, data sharing between stakeholders in the supply chain can be difficult due to privacy concerns, proprietary systems, or lack of standardized formats, limiting the availability of relevant data for AI applications.

Technical Expertise and Infrastructure Requirements

Implementing AI technologies requires specialized technical expertise, which may be scarce in some organizations, particularly small- and medium-sized enterprises (SMEs). Developing, deploying, and maintaining AI systems involves skilled data scientists, AI engineers, and IT professionals. Additionally, the infrastructure needed to support AI, such as cloud computing capabilities, advanced data storage, and high-

speed internet, may require significant investment, making adoption difficult for some companies.

Ethical Considerations and Bias in AI Algorithms

AI algorithms, if not designed or managed carefully, can introduce or amplify biases in decision-making, leading to unfair practices, such as discrimination in supplier selection or workforce management. There are also concerns about the ethical implications of AI, such as job displacement and data privacy. Addressing these ethical challenges requires robust governance frameworks to ensure AI is used responsibly and fairly within supply chains.

Cost and Resource Investments

The financial investment required to implement AI solutions can be substantial. This includes costs for software, hardware, training, and ongoing maintenance. For some businesses, particularly those in emerging markets or those with limited resources, the cost of AI adoption may be prohibitive. Additionally, the return on investment (ROI) from AI may take time to materialize, which can deter companies from making the initial investment.

Future Directions in AI for Sustainable Supply Chain Management

Advances in Machine Learning and AI Technologies

Continued advancements in machine learning and AI technologies are expected to enable more sophisticated applications in supply chain management. As algorithms become more accurate and capable of handling complex tasks, AI will further improve areas like demand forecasting, risk management, and sustainability tracking. New techniques, such as reinforcement learning, could lead to even more dynamic and adaptive supply chain solutions.

IoT Integration for Real-time Monitoring and Optimization

The integration of AI with the Internet of Things (IoT) will revolutionize supply chain management by enabling real-time monitoring and data collection across the entire supply chain. IoT devices, such as sensors and RFID tags, can provide real-time data on product conditions, locations, and energy usage. Combined with AI, this data can be used to optimize operations in real-time, reduce

energy consumption, prevent wastage, and ensure timely responses to disruptions.

Developing Ethical AI Frameworks

As AI continues to play a larger role in supply chains, it will be important to develop ethical frameworks that ensure fairness, transparency, and accountability. These frameworks will guide companies in responsible AI usage, addressing issues like bias, data privacy, and the societal impacts of automation. Ethical AI frameworks will also help companies align their AI initiatives with broader sustainability goals, ensuring that AI enhances both business and social value.

AI's Role in Circular Economies and Closed-Loop Supply Chains

AI is poised to play a key role in facilitating the transition towards circular economies and closed-loop supply chains, where materials and products are reused, refurbished, or recycled. AI can help optimize product life cycles, manage reverse logistics (the process of moving goods from consumers back to manufacturers), and enable better waste management and resource recovery. These applications will contribute to reducing environmental impact and achieving more sustainable business models.

Conclusion

Summary of Key Findings

This review has highlighted the critical role that AI can play in advancing sustainability within supply chain management. AI offers diverse applications, from demand forecasting to waste management, and has significant benefits such as improving efficiency, reducing environmental footprints, and enhancing resilience. However, challenges such as data quality, technical expertise, and ethical concerns must be addressed for successful AI implementation.

Implications for Industry and Sustainability Practices

For industry leaders, the integration of AI into supply chains offers a pathway to more sustainable and efficient operations. By leveraging AI, businesses can optimize processes, reduce waste, and enhance decision-making. However, companies must also invest in the necessary infrastructure and ethical frameworks to ensure that AI is deployed responsibly and equitably, benefiting both businesses and the environment.

Call for Further Research and Innovation

There is a pressing need for further research and innovation in AI technologies, particularly in the areas of sustainability and ethical governance. Future studies should explore new AI applications in circular economies, advanced machine learning techniques, and the integration of AI with emerging technologies like IoT. Additionally, more work is needed to develop standardized practices and frameworks that support the ethical and responsible use of AI in supply chains.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

IMPACT OF ECONOMIC GROWTH ON ENVIRONMENT DEGRADATION

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Abstract

An increasing number of people are worried about the unabated increase in emissions and how it will impact the global warming that is destroying the planet. The body of research has nearly reached the conclusion that economic expansion and activity have a major role in environmental deterioration. There is no shortage of empirical research on the relationship between environmental deterioration and economic growth, despite the abundance of studies on the impact of the former on the latter. On the other hand, the related literature suggests that achieving economic expansion is linked to a rise in environmental deterioration. This study investigates the possibility of a relationship between the increase in environmental degradation and economic growth, in order to inform the formulation of non-conflicting environmental and structural policies. It also looks at the ways that environmental deterioration could influence economic expansion. The two-step dynamic system-generalized approach of moment methodology was used to regulate endogeneity in a worldwide panel of 140 nations spanning the years 1980 to 2021. The results typically point to a negative impact of environmental degradation on economic growth.

Keywords: *Environment Degradation, Economic Growth, SDGs, FDI, Emissions.*

Introduction

The impact of environmental sustainability and deterioration on economic growth is examined in this research. The 21st century has seen an increase in demand for environmental sustainability beyond anything seen previously. This comes after environmental risks have increased unnecessarily. According to the World Economic Forum (WEF), environmental risks account for four of the top five threats the world faces and are among the five most likely long-term global risks (WEF, 2021). SDGs (sustainable development goals) are thought to be most threatened by environmental concerns arising from environmental degradation. This is true since environmental threats have an impact on

every community, business, and person. It's a risk to which no one can be immune, and there is no global vaccination against it. The primary driver of climate change, carbon dioxide emissions, have been a key contributor to these dangers. In 2018, the United States released its Fourth National Climate Assessment report, which issued a warning that global economic disruption from climate change might occur if greenhouse gas emissions are not curbed. According to the research, the agriculture, forestry, fisheries, and tourist industries are adversely impacted by climate change. The research goes on to say that the increasing risks and vulnerabilities brought about by climate change pose a growing threat to public health and safety, quality of life, and economic

growth rates. Over this century, climate change is predicted to hamper economic growth and cause rising damage to property and infrastructure in the absence of large and ongoing global mitigation measures. The literature and policy debates have focused a great deal of emphasis on the growing worries about environmental degradation and climate change. Within the context of environmental degradation, the economics literature has primarily focused on how economic growth affects environmental deterioration.

Review of Literature

Adolfo, Figueroa (2022) “economic growth and the environment” Based on Georgescu-Roegen's theory, which applies thermodynamic principles to the economic process, Adolfo Figueroa's work provides a basic theoretical model of the relationships between economic growth and the environment. In mainstream economics, Robert Solow's 1974 study is considered a standard reference, despite some shortcomings that have not yet been addressed by recent research. Nicholas Georgescu-Roegen (1971) used a unique approach by relating thermodynamic principles to the economic process. The entropic model presented in Figueroa's research suggests that economic processes of distribution and development currently occur in the context of environmental distress, and that waste is an inevitable byproduct of manufacturing due to the first law of thermodynamics.

Theodore, Panayotou. (2021). “Economic Growth and the Environment” The research on the relationship between environmental sustainability and economic development is thoroughly analysed and summarised in the paper. It looks into two areas of research: one is theoretical and includes macroeconomic models of the relationship between environmental degradation and economic growth, and the other is empirical and uses ad hoc specifications and estimations of a reduced form equation to relate environmental impact indicators to per capita income. According to the author, macroeconomic models provide substantial support for the empirical findings of the Environmental Kuznets Curve research. The report suggests developing alternative macroeconomic models that

accommodate a more realistic role for government, as well as conducting additional empirical research on the concept of additive separability.

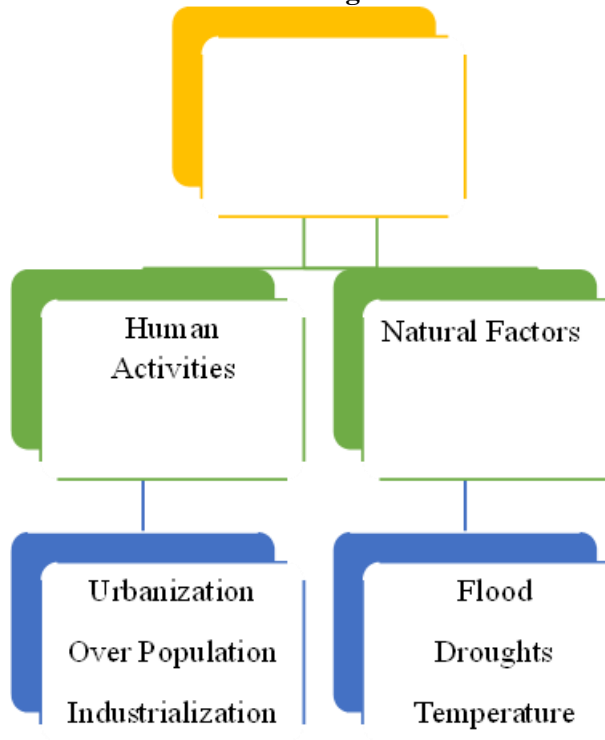
William, A., Brock., M., Scott, Taylor. (2019) “Economic Growth and the Environment” This article discusses and assesses the theoretical literature linking economic growth to environmental quality. It is focused on the relationship between environmental limits and economic growth, the growth limitations imposed by these constraints, and the opportunities for future research. The review provides an integrated assessment of current knowledge, reports on new empirical findings, and identifies important open theoretical issues. Although not included in the study, the paper mentions the possibility of a composition impact causing changes in the fleet of cars. The rise in lead per gallon of petrol among low-income individuals may be due to the composition effect.

De, Bruyn., M, Sander. (2016) “Economic Growth and the Environment: An Empirical Analysis” According to the author, implementing efficient environmental solutions can improve a nation's chances for economic growth, and taking steps to increase those chances can facilitate the resolution of environmental issues. It is usually less expensive to prevent pollution or environmental damage than to cause it. Market forces alone will not be sufficient to resolve environmental challenges; instead, some form of tax, law, regulation, or framework for negotiations will be required. Without regulations, environmental deterioration might worsen and eventually limit economic growth. The best way to reduce the damage that economic activity causes to the environment is to employ eco-friendly technologies and practices. Reducing waste and inefficiencies and implementing environmentally friendly technology and practices are more efficient ways to relieve environmental restrictions than restricting population growth. The behavioural responses that environmental legislation can elicit, such as substitutions and managerial and technical advancements leading to environmentally friendly practices, are what make them effective. Low-income communities suffer disproportionately from pollution.

Ian, Hodge. (2015). “Impact of Economic Growth on the physical Environment” The study looks at the relationship between environmental quality and economic growth and makes the case that environmental degradation is not caused by economic growth. The research examines many theories regarding this connection and assesses them experimentally for a range of environmental pressure markers. The trials' findings suggest using alternative estimation techniques, which may alter conclusions on the relationship between environmental degradation and economic growth. The essay also explores the processes that industrialised countries use to reduce pollution.

Impact of Economic Growth on Environment

Causes of Environment Degradation



There are things we can do to slow down the deterioration of our surroundings. Completing the legal framework is the most efficient way to reduce pollution and depletion. The current legal system has some shortcomings that subtly favour wrongdoing. In order to prevent illicit activity, the government must improve the way it closes gaps in the legal system. It is imperative that regulations pertaining to the exploitation of natural resources be amended, as the primary cause of biodiversity loss is overexploitation. The government has long influenced how it

views social and economic approaches to the pollution problem, but there is still little use of these strategies. Restoring our ecology and eradicating environmental pollution will not happen with a single effort. All levels of authority must be involved in the formulation of policies as well as their execution and oversight in order to achieve the country's long-term environmental goal and promote sustainable development.

Research Methodology

The dynamic reduced-form model is used in this study to calculate how environmental deterioration affects economic growth. The idea that the impact of environmental degradation is nonlinear is tested in this study. We begin with the squared term of environmental degradation in order to investigate the nonlinear impact of environmental degradation on economic growth. The empirical model that accounts for the influence of nonlinearity on economic growth.

Descriptive Variable Statistics

Descriptio	Mea	Standard	Min	Max
GDP per	8.475	1.48	5.119	11.63
Physical	3.071	0.35	-0.309	4.493
Human	4.169	0.66	0.910	5.099
EDI	0.475	1.68	-	6.107

Conclusion

Economics has studied economic growth in great detail as it is a complex and wide-ranging topic. Since consistent and inclusive economic growth may raise living standards and improve the quality of life for their citizens, most governments see it as a crucial goal. But in order to ensure that economic growth is sustainable and advantageous to all societal members, careful planning, policy execution, and monitoring are needed. It is important to emphasise that the impact of economic growth on the environment varies by country and is influenced by things like industrial structure, degree of development, and political actions.

The goal of sustainable development is to achieve a balance between social progress, environmental preservation, and economic growth. This usually means putting policies and procedures into place that improve resource efficiency, lower pollution, and safeguard natural ecosystems. In order to address global environmental issues like climate change that are connected to economic growth, international cooperation and

agreements are also necessary. In summary, there is a close relationship between economic expansion and the environment. Although it provides the goods and services needed to maintain economic activity, unchecked economic growth has the potential to devastate the environment. For businesses and politicians, striking a balance between environmental sustainability and economic development is a big challenge that often calls for the adoption of programmes that support green growth and prudent resource management.

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A STUDY ON THE INCLINATION OF NON-COMMERCE STUDENTS TOWARDS ADHERANCE OF COMMERCE EDUCATION IN THE LIGHT OF NATIONAL EDUCATION POLICY, 2020

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Abstract

Education could be defined as a continuous process of gathering knowledge, values, and skills that makes any individual self-sufficient and employable. It is the constant hunt made by any individual in not only gathering but also to disseminate knowledge for the benefit of self but also to society at a large. It is a way of acquiring knowledge both in terms of formal and informal learning's, practical experiences like interactions, class room learning's etc. The history of education system in India began right from the Gurukul system of learning and finally metamorphosising into modern learning in school, colleges, universities to meet the changing needs and demands of the society. In this research paper we tried to highlight the impact of NEP, 2020 on modern career driven education system which will enable the present generation in getting the employment as per the global requirement.

Keywords: National Education Policy 2020, NEP, Commerce, Management.

Introduction

With globalization and liberalisation a prospective customer of any company cannot be limited within a boundary rather each and every company focuses on attaining market share at a global level .With this purview the companies are day to day re developing their research and development processes, financial structure, marketing strategy etc. In order to cater the need of the prospective student for helping them to match their skill and potency at the global level various education policy was formed in India soon after the independence.

The first National Policy on Education of independent India was formed in the year 1968 under the leadership of then Prime Minister Indira Gandhi with the major objective to ensure free and compulsory

education to all children up to the age of 14, equal education policy to all marginalised sectors of the society, development and integration of science and technology in the curriculum etc.

The second National Policy on Education was formed in the year 1986 which got later amended in the year 1992 with the major highlight focussing on education for girls and children with dis-abilities and to provide inclusive education. The policy also lead to the formation of Anganwadi centres and integrated child development programmes. The policy later got amended in the year 1992 to align with the gaps of global liberalisation and focusing more on Public-private Partnership.

After different experimentation, the new version of National Education Policy

(NEP) was formed by the approval of the Union Cabinet of India on July 29, 2020. The primary objective of its formation is to meet the needs and requirements of the modern education system and the challenges faced by the education system in the 21st century.

The NEP, 2020 will cater to the fulfilment of the needs of the education system basically in four tiers-

I. School Education (generally constitutes early childhood education, curriculum and pedagogy at school, accreditation for schools to name a few.)

II. Higher Education (constitutes quality level of education at colleges and universities, multidisciplinary education, vocational education etc.)

III. Professional Education (constitutes professional education, adult education, Indian art and culture etc.)

IV. Implementation & Funding (generally includes the implementation of the laid down policies to be adopted at different tiers, necessary requirements, apportionment and allocation of funds for quality and affordable education etc.)

The key aspects of NEP, 2020 are laid down below.

1. To promote holistic development and individual skills of each student by motivating and equipping not only teachers but also the parents.
2. Aims to achieve foundational literacy and numeracy of all students at grade 3.
3. Imbibing flexibility in the learning process for students so that they can independently choose the subjects and streams based on their interest, knowledge and ability.
4. Bridge the differentiators among in the learning streams arts and sciences, curricular and extra-curricular activities, vocational & academic streams etc.
5. To promote unity and integrity of the knowledge system, multidisciplinary mode of education implemented across science, arts, sports, and more emphasis is given on conceptual thinking and learning method.
6. To promote critical thinking and logical solving skill.
7. Indulging ethics and cultural values to modern education system like empathy, cleanliness, respect for public property, scientific temper, etc.
8. Establishing synergy across various levels of education, right from early childhood to higher

education.

As the topic is totally new to the researcher, efforts were made to learn and unlearn the inclination of the students, more specifically the commerce students towards adherence to the New Education Policy, 2020. There is an untold story behind this which is never officially documented in any place, but as a commerce teacher we were very worried where lots of compliances fixed up by NEP, 2020 for the institutions, teachers, and specially the students could be complied with the commerce student or not. In commerce academia we as a student gained the knowledge of rationality, accountability, objectivity adherence to the principles and above all standardisation, these things are totally present in the NEP, 2020 but the problem is that the technical jargons like major and minor courses, MDC's, internship, degree with or without research etc., are completely new to the commerce students and unlike other streams commerce follows a continuity of subjects over the semesters. For example the subject taxation is taught in three separate semesters under the title direct taxation, indirect taxation and tax planning and management. Whether the perception of the present generation of the students is matching with this concept or there is a mismatch could only be found out from a comprehensive empirical primary data based, exploratory and conclusive research study.

Brief Review of Literature

Mahanish Panda (2021) in his study **ROLE OF NATIONAL EDUCATION POLICY (NEP) IN MANAGEMENT STUDIES: A BRIEF INSIGHT** tried to portray the overview of the policies of NEP, 2020 and how NEP, 2020 will play a major role in the field of management education. The researcher concluded that as per NEP, 2020 multidisciplinary education will be set up in the institutions aligning with the IIT's and IIM's will boost the management curriculum even at the schools, colleges, universities, etc. The introduction of NPST (National Professional Standards for Teachers) will help in creating more efficient teachers in the management field. The study has also identified that though there are exits at multiple levels, still a BBA and MBA graduate needs to study the entire curriculum, as early leave will not make the student market ready. Strong infrastructure should also be set up with joint

collaboration of both central and state government.

Prof. Sumant L. Wachasundar and Dr. Jaspal Gidwani (2022) has published a research paper titled **AN EMPIRICAL STUDY ON IMPLEMENTATION OF NEP-2020 IN COMMERCE AND MANAGEMENT DISCIPLINE OF RTM NAGPUR UNIVERSITY**. The primary objectives of the study are to examine how NEP 2020, will affect management and commerce disciplines and to recommend institutes in accordance with the curriculum and NEP guidelines. The study highlighted how NEP 2020, will affect business and management. Out of the 100 respondents' 84 students are aware of NEP, 2020. the chi-square test demonstrated that NEP, 2020 will have a significant impact on the stakeholders in the business and management fields. The NEP, 2020 directs the curriculum that will cater the industrial demand both at national and international level.

Dr. Amruta Pawar & Dr. Sharad Phulari (2022) in their work titled **A STUDY ON AWARENESS ABOUT THE IMPACT OF NATIONAL EDUCATION POLICY – 2020 AMONG THE STAKEHOLDER OF COMMERCE AND MANAGEMENT DISCIPLINES** tried to **portray the** preciseness of the NEP, 2020 and its impact on Commerce and Management discipline and also to compare the end result of existing education policy and NEP, 2020. Both Primary and Secondary data were collected for the study where the primary data is collected through structured questionnaire and secondary data is collected from various websites, journals, research publications etc. A convenient sampling technique is adopted with the sample size of 100 respondents from academic establishments in Bangalore. As per the hypothesis framed by the researcher, the study rejected the null hypothesis and accepted the alternate hypothesis with the help of chi-square measure, claiming that there is an important impact of NEP, 2020 on commerce and management discipline. The comparative study on the present NEP and NEP, 2020 has stated the drawbacks of the present education policy.

Mridul Madhav Panditrao & Minnu Mridul Panditrao (2023) has published a research article titled **NATIONAL EDUCATION POLICY 2020: WHAT IS IN**

IT FOR A STUDENT, A PARENT, A TEACHER, OR US, AS A HIGHER EDUCATION INSTITUTION / UNIVERSITY. The major objective of the study is to portray the aims, vision, issues, principles, challenges and solutions of NEP, 2020 than that from education policy of 198 and how well it is to be accepted by the various institutions, teachers, parents and students. The suggestions of the researcher has been segregated into three dimensions viz. School education, Higher education, Other key areas NEP 2020 is a noble effort by GOI and it starts at the grass root from school level, then it goes through graduate level and even higher level of education. It is also described as multidisciplinary, holistic and broad based education system. More Emphasis is given on vocational education and made major reforms like traditional 10+2 system is replaced with 5+3+3+4 system. At university level single stream is transformed into multidisciplinary systems.

Sourav Bandopadhyaya, Nandini Rooj & Dr. Arnab Kumar Dutta (2023) has published a paper titled **PARADIGM SHIFT IN HIGHER EDUCATION PROPOSED BY NEP 2020: A HUMANISTIC APPROACH**. The study concluded that the education leaders, administrators must shift their thinking that student cannot create learning goals and study their own. It is the primary responsibility of the teacher to inculcate a learning atmosphere and then the student can learn from the repository databases, internet, etc. Different higher education institutions must encourage self-directed learning approach.

Objectives of the Study

Based on the above-mentioned literature review, the following objectives are being found pertinent:

1. To have an overview of the National Education Policy, 2020.
2. To study the socio-demographic profile of the non-commerce students.
3. To identify the key factors influencing the inclination of non-commerce Students from different colleges in North 24 parganas district towards Commerce education.

Research Methodology

Nature of Data - The required primary data was collected through a structured questionnaire featuring both open ended and closed-ended questions based on first-hand

experiences. Initially, demographic questions were posed, followed by dichotomous and multiple-choice questions, 5-point Likert scale questions, and concluding with open questions for suggestions or comments.

Method of Sampling – Convenience and Judgemental sampling were employed to collect data from 200 respondents from North 24 Parganas general degree colleges affiliated to West Bengal State University.

Structure and Contents of Questionnaire - The questionnaire was divided into three sections – Part A, Part B, & Part C.

Part A of the analysis comprised the demographic profile of the respondents, including name, age, gender, religion, caste, marital status, hometown (including state), and contact number, email ID, educational qualifications etc.

Part B of the analysis dealt with research-based questions addressing the knowledge of the respondents regarding the new education policy and the factor which will guide a non-commerce faculty council student to opt for commerce subjects as a part of MDC.

Part C of the analysis focused on Exploratory Factor Analysis performed through Principal Component Analysis (PCA) with varimax rotation.

Section-A analysed residential profile-related questions such as name of the respondent, Age, Gender, Religion, Caste, Marital status, home town (including states), Contact no, Email I'd etc. (turned into variables afterwards). The tools used here are mainly Frequency Distribution Tables and Descriptive Statistics.

Section-B analysed the questions related to the awareness regarding the new national education policy which generally contains the questions like Are you aware of the new National Education Policy, 2020? Did you notice any changes in the curriculum system from the previous, after the implementation of

new education policy? , Do you believe that the new NEP, 2020 will curtail the dropout rates? , Do you believe that the new NEP, 2020 will ensure universal access to education at all levels? , Do you believe that the new NEP, 2020 will provide better career management opportunities and progression? Etc.

Section-C analysed the research-specific questions which were asked to the respondents through fill-in structured questionnaires measured in Likert's 5-Point Scale and the specific tools used here for analysis are mainly frequency distribution and frequency tables, prepared through Microsoft Excel and SPSS 25.

Data Analysis.

Reliability Test

After conducting a Reliability Statistics test in SPSS 25, the Cronbach's Alpha based on standardized items is found to be 0.869 (Shown in Table 1.1), which proves the reliability of the questionnaire and data.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.869	.868	26

Source: Data compiled through SPSS.

Validity Test

Again, for validity test, Friedman's Test and Tukey's Test is conducted. In statistical terms, Tukey's Test for Non-additivity, named on John Tukey, is an approach used in two-way ANOVA (regression analysis, involving two qualitative factors) to assess

whether the factor variables are additively related to the expected values of the response variable. The Turkeys test for no additivity is found to be significant which approves that there are no fake values in the data set.

ANOVA with Tukey's Test for Nonadditivity							
		Sum of Squares	df	Mean Square	F	Sig	
Between People		606.752	199	3.049			
Within People	Between Items	185.913	25	7.437	3.865	.000	
	Residual	Nonadditivity	27.754 ^a	1	27.754	14.463	.000
		Balance	9544.679	4974	1.919		
		Total	9572.433	4975	1.924		

Total	9758.346	5000	1.952	
Total	10365.098	5199	1.994	

HOTELLING'S T-SQUARED TEST

Hotelling's T-Squared Test				
Hotelling's T-Squared	F	df1	df2	Sig
77.005	2.709	25	175	.000

After Turkeys One degree of Freedom Test and Hotelling's T-Squared Test found to be significant and thereafter, Intraclass Correlation Coefficient was also calculated as follows

Intraclass Correlation Coefficient

Intraclass Correlation Coefficient							
	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.022 ^a	.012	.035	1.585	199	4975	.000
Average Measures	.369 ^c	.236	.489	1.585	199	4975	.000
Two-way mixed effects model where people effects are random and measures effects are fixed.							
a. The estimator is the same, whether the interaction effect is present or not.							
b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.							
c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.							

Test for Normality One-Sample Kolmogorov-Smirnov Test

The Kolmogorov– Smirnov test can be used to serve as a goodness of fit test. In the special case of testing for normality of the distribution, samples are reliable and associated with a standard normal distribution. The result of one-sample KS Test was found to be .000, i.e., significant, implying that although convenience sampling was adopted

as a method of sampling, but the dataset followed normal distribution.

SECTION-A: ANALYSES RELATING TO DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Age of the Respondents

The age of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-18 years	8	4.0	4.0	4.0
	19-21 years	39	19.5	19.5	23.5
	22-24 years	58	29.0	29.0	52.5
	above 24 years	95	47.5	47.5	100.0
	Total	200	100.0	100.0	

The data depicts that majority of the respondents are belongs to the age group of above 24 years and the correct importance of MDC in the light of NEP 2020 is to be gauged by them.

Gender of the Respondents

The gender of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	85	42.5	42.5	42.5
	Female	115	57.5	57.5	100.0
	Total	200	100.0	100.0	

The data depicts that out of 200 respondents majority of the respondents are female bearing a total of 115 out of 200 and rest 85 are male respondents bearing a percent of 57.50 percent as of females and 42.50 percent as of males.

Marital Status of the Respondents

The marital status of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	122	61.0	61.0	61.0
	Married	78	39.0	39.0	100.0
	Total	200	100.0	100.0	

The data depicts that most of the respondents are single and that of 122 out of 200 respondents and 78 are respondents who are

not married, bearing a valid percentage of 39 percent.

Educational Qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under graduate	95	47.5	47.5	47.5
	Post graduate	64	32.0	32.0	79.5
	Professional Course	41	20.5	20.5	100.0
	Total	200	100.0	100.0	

Educational Qualification of the Respondents

The data depicts that out of the 200 respondents 95 respondents are undergraduate who are the first in the upper education level to face the implementation of

MDC through new NEP 2020 .64 respondents are pursuing post grad and 41 respondents belongs to the professional courses.

Present faculty council of the Respondents

Present Faculty Council					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Faculty council of Science	92	46.0	46.0	46.0
	Faculty council of Arts	108	54.0	54.0	100.0
	Total	200	100.0	100.0	

As the study focuses on finding the factors inhibiting to the pursuance of commerce education, so the primary data required for the study is to be from the students from the faculty council other than commerce.92

respondents are from faculty council of science and 108 respondents are from the faculty council of arts/humanities.

Residential Area					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	87	43.5	43.5	43.5

	Semi-Urban	57	28.5	28.5	72.0
	Rural	56	28.0	28.0	100.0
	Total	200	100.0	100.0	

Residential Area of the Respondents

The data depicts that majority of the respondents are from urban area i.e. 87 respondents out of 200, 57 respondents are from semi-urban area and 56 respondents are from rural area. The location of the respondents will definitely help the policy

makers in building and strengthening the NEP 2020 even at a deeper level.

SECTION-B: ANALYSES RELATING TO RESEARCH-SPECIFIC QUESTIONS
Awareness regarding the new National Education Policy, 2020

Are you aware of the new National Education Policy, 2020					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	182	91.0	91.0	91.0
	No	18	9.0	9.0	100.0
	Total	200	100.0	100.0	

The data depicts that 91 per cent of the respondents are aware about the new NEP 2020 whereas very negligible are unaware of the NEP 2020.

Observance of the changes in the curriculum system from the previous, after the implementation of new education policy

Did you notice any changes in the curriculum system from the previous, after the implementation of new education policy?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	169	84.5	84.5	84.5
	No	15	7.5	7.5	92.0
	Not Sure	16	8.0	8.0	100.0
	Total	200	100.0	100.0	

The data depicts that 84.5 per cent of the respondents have said yes regarding the changes in the curriculum system i.e. 169 out of 200 respondents and 15 have said NO and the remaining of 16 are not in the position to distinguish any.

of variables into smaller number of factors and at the same time preserving most of the statistical information. In order to carry out Principal Component Analysis to identify the factors which have effect on decision making regarding viral marketing the **Twenty Six (26) variables are extracted into eleven (11) exploratory factors** which explain **59.730% of the total variance.**

Principal Component Analysis for Exploratory Factor Analysis.

Principal Component Analysis (PCA) is a method of reducing large number

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.250	8.652	8.652	2.250	8.652	8.652	1.762	6.776	6.776
2	1.770	6.808	15.460	1.770	6.808	15.460	1.569	6.033	12.809
3	1.603	6.167	21.627	1.603	6.167	21.627	1.469	5.650	18.459
4	1.422	5.468	27.095	1.422	5.468	27.095	1.419	5.456	23.915
5	1.416	5.447	32.541	1.416	5.447	32.541	1.410	5.423	29.338
6	1.348	5.186	37.727	1.348	5.186	37.727	1.366	5.254	34.592
7	1.234	4.746	42.474	1.234	4.746	42.474	1.352	5.201	39.793

8	1.191	4.580	47.054	1.191	4.580	47.054	1.327	5.102	44.895
9	1.149	4.421	51.474	1.149	4.421	51.474	1.298	4.994	49.889
10	1.104	4.248	55.722	1.104	4.248	55.722	1.290	4.961	54.850
11	1.042	4.008	59.730	1.042	4.008	59.730	1.269	4.880	59.730
12	.984	3.784	63.514						
13	.960	3.692	67.206						
14	.935	3.597	70.802						
15	.850	3.270	74.072						
16	.805	3.096	77.168						
17	.760	2.922	80.090						
18	.710	2.731	82.821						
19	.693	2.665	85.486						
20	.654	2.515	88.001						
21	.632	2.430	90.431						
22	.589	2.266	92.697						
23	.540	2.076	94.772						
24	.516	1.985	96.757						
25	.472	1.817	98.574						
26	.371	1.426	100.000						

Extraction Method: Principal Component Analysis.

FACTOR 1:

The multiple regression equation for this variable “**Entrepreneurial and Career Objective**” is greater than 1 and is

$$\beta 1 = 0.693 X_{32} + 0.763 X_{33} + 0.502 X_{34} \dots\dots\dots (i)$$

FACTOR 2:

The multiple regression equation for this variable “**Advancement in career**” is greater than 1 and is

$$\beta 2 = 0.679 X_{17} + 0.723 X_{19} \dots\dots\dots (ii)$$

FACTOR 3:

The multiple regression equation for this variable “**Professional acumen and Legal knowledge**” is greater than 1 and is

$$\beta 3 = 0.648 X_{21} + 0.593 X_{31} + 0.523 X_{38} \dots\dots\dots (iii)$$

FACTOR 4:

The multiple regression equation for this variable “**Generation of own business mind-set**” is greater than 1 and is

$$\beta 4 = 0.760 X_{15} + 0.609 X_{16} \dots\dots\dots (iv)$$

FACTOR 5:

The multiple regression equation for this variable “**Proficiency in making professional**

team at the workplace” is greater than 1 and is

$$\beta 5 = 0.724 X_{20} \dots\dots\dots (v)$$

FACTOR 6:

The multiple regression equation for this variable “**Ability in problem solving by able to properly manage men, money and material**” is greater than 1 and is

$$\beta 6 = 0.750 X_{22} + 0.570 X_{25} \dots\dots\dots (vi)$$

FACTOR 7:

The multiple regression equation for this variable “**Better communication skill with foreign clients and wide array of career opportunities**” is greater than 1 and is

$$\beta 7 = 0.652 X_{23} + 0.665 X_{36} \dots\dots\dots (vii)$$

FACTOR 8:

The multiple regression equation for this variable “**Ability to work as auditor, tax consultant etc.**” is greater than 1 and is

$$\beta 8 = 0.796 X_{30} \dots\dots\dots (viii)$$

FACTOR 9:

The multiple regression equation for this variable “**Ability to properly manage human resource, human planning and can**

systematically recruit, select etc.” is greater than 1 and is

$$\beta_9 = 0.750 X_{39} \dots\dots\dots(ix)$$

FACTOR 10:

The multiple regression equation for this variable “Proper management of various risks of the organization like business risk, financial risk etc.” is greater than 1 and is

$$\beta_{10} = 0.644 X_{28} + 0.750 X_{35} \dots\dots\dots(x)$$

FACTOR 11:

The multiple regression equation for this variable “Managing proper personal finance and building leadership qualities” is greater than 1 and is

$$\beta_{11} = 0.829 X_{18} + 0.508 X_{27} \dots\dots\dots(xi)$$

Conclusion

The study reveals several key insights into the impact of the National Education Policy (NEP) 2020 on the inclination of non-commerce students towards commerce education, highlighting various demographic, academic, and perceptual factors. Firstly, the age distribution of respondents indicates that the youngest age group (16-18 years) comprises only 4% of the sample, suggesting that the impact of MDC in the light of NEP 2020 is minimal for this age group. In contrast, older age groups, specifically those aged 22-24 years (29%) and above 24 years (47.5%), show higher engagement, indicating that the policy's implementation may need to be more inclusive of younger students to enhance their interest and participation.

Gender analysis shows a higher proportion of female respondents (57.5%) compared to male respondents (42.5%), indicating a stronger interest or engagement among females regarding commerce education under NEP 2020. This could reflect broader educational trends and gender dynamics influencing academic preferences. The marital status of respondents reveals that a majority are single (61%), while 39% are married, highlighting potential differences in motivations and challenges faced by these groups in their educational pursuits.

The educational qualifications of respondents indicate that undergraduates form the largest group (47.5%), experiencing the direct impact of MDCs under NEP 2020. This is followed by postgraduate students (32%) and those enrolled in professional courses

(20.5%). This distribution underscores the need for tailored support and resources to facilitate smooth transitions and adaptations, especially for undergraduates. The study focuses on non-commerce students, with 92 respondents from the science faculty and 108 from the arts/humanities faculty. This distribution highlights the interdisciplinary approach of NEP 2020 and the importance of understanding the unique challenges and opportunities faced by these students when considering a shift to commerce education.

Residential area analysis reveals that the majority of respondents are from urban areas (43.5%), followed by semi-urban (28.5%) and rural areas (28%). This diversity is crucial for policymakers to address regional disparities and ensure that NEP 2020 effectively reaches and benefits students from different backgrounds and locations. Awareness of NEP 2020 is high among respondents, with 182 being familiar with the policy. This indicates successful dissemination of information, although efforts are needed to reach the minority who remain unaware to ensure comprehensive understanding and engagement.

Most respondents (84.5%) acknowledge changes in the curriculum post-NEP 2020 implementation, confirming the policy's tangible impact on educational content and structure. Principal Component Analysis (PCA) identified eleven critical factors influencing decision-making regarding viral marketing, including entrepreneurial and career objectives, advancement in career, professional acumen, and more. These factors explain 59.73% of the total variance, providing a robust framework for understanding the diverse motivations and challenges faced by students.

Finally Principal Component Analysis is used to identify the factors which have effect on decision making regarding the inclination of students towards commerce education the **Twenty Six (26) variables are extracted into eleven (11) exploratory factors** which explain **59.730% of the total variance**. The rotated component matrix has been developed with Principal Component Analysis as extraction method and Varimax with Kaizer normalization.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal

ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)

Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

THE POWER OF VALUATION: A COMPREHENSIVE REVIEW OF FINANCIAL INVESTMENT STRATEGIES

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Abstract

The study, titled "The Power of Valuation: A Comprehensive Review of Financial Investment Strategies," examines the financial performance of Reliance Industries Ltd. It underscores the need for thorough valuation when formulating effective investment strategies. While the company shows year-over-year growth in areas such as revenue, profitability, and cash flow, historical trends reveal a deceleration in its growth rate. Despite improvements in operational efficiency, external factors like increased taxes or competition may constrain overall profitability. A detailed cash flow analysis indicates a strategic shift, highlighted by rising investment outflows and declining financing inflows, which could impact future performance. Key financial ratios—ROE, ROCE, ROA, and the current ratio—show improved fundamentals, although the overall growth rate is slowing. The study emphasizes that successful investment strategies require a holistic and comprehensive valuation approach that goes beyond surface-level metrics, incorporating historical data, cash flow trends, and operational insights to better assess a company's long-term potential.

Keywords: *Financial investment strategies, Valuation techniques, Historical performance, Long-term investment analysis.*

Introduction

Valuation lies at the core of financial investment decision-making. It serves as a crucial tool for investors, enabling them to assess the real worth of a security, asset, or business. By understanding valuation, investors can make informed decisions aligned with their financial goals, risk tolerance, and market conditions. This review explores the significance of valuation by examining key valuation methods and their implications for financial investment strategies.

Relevance of the study

Valuation plays a pivotal role in determining whether an investment is overvalued, undervalued, or fairly priced.

Accurate valuation helps investors spot opportunities and avoid costly mistakes. Companies, institutional investors, and individuals rely on valuation, especially in volatile markets where prices often fluctuate based on sentiment rather than fundamentals.

Literature review

Evolution of Financial Investment Strategies: Financial investment strategies have evolved from simple buy-and-hold methods to more complex quantitative approaches. The Modern Portfolio Theory (MPT), introduced by Harry Markowitz in the 1950s, emphasized diversification and risk management. Eugene Fama's Efficient Market Hypothesis (EMH) proposed that stock prices

reflect all available information, making it challenging to consistently outperform the market. Critics, particularly behavioral economists like Daniel Kahneman and Amos Tversky, introduced concepts such as overconfidence and loss aversion, suggesting opportunities in market inefficiencies. The strategies of value investing, championed by Benjamin Graham and Warren Buffett, and growth investing have been widely influential.

Role of Valuation in Investment Decision-Making: Valuation methods are essential in determining whether a security is undervalued or overvalued. Common techniques include:

- **Discounted Cash Flow (DCF):** A method that estimates the present value of future cash flows, especially useful for long-term investments (Damodaran, 2006).
- **Price-to-Earnings (P/E) Ratio:** A relative valuation tool comparing stock prices with earnings per share. Basu (1977) found that lower P/E ratios often indicate undervalued stocks.
- **Comparable Company Analysis:** Compares valuation multiples (e.g., EV/EBITDA) among similar firms. Koller et al. (2010) noted its usefulness but highlighted challenges related to assumptions on comparability.

Value vs. Growth Investing: An Empirical Debate: Research by Fama and French (1992) demonstrated that value stocks with low price-to-book ratios tend to outperform growth stocks. In contrast, Bogle (2005) argued that markets often undervalue high-growth companies, particularly in sectors like technology and healthcare. Lakonishok et al. (1994) found that growth stocks tend to outperform during periods of economic expansion.

Quantitative and Algorithmic Strategies: Quantitative strategies have emerged from advances in technology. Lo and MacKinlay (1999) laid the foundation for stock return predictability, influencing strategies like factor-based investing. Machine learning and AI-driven approaches (Chan et al., 2013) have gained popularity but face challenges such as overfitting.

Behavioral Finance and Market Inefficiencies: Behavioral finance, popularized by Shiller (2000), highlights how

human behavior, such as irrational exuberance, drives market movements. Cognitive biases such as herding and confirmation bias, discussed by Barberis and Thaler (2003), provide opportunities to exploit market anomalies.

Impact of Market Conditions on Valuation Strategies: Valuation techniques and strategies depend heavily on economic conditions. During bull markets, growth stocks tend to perform better, while value stocks gain favor during recessions. Studies like Asness (2012) emphasize the importance of understanding market cycles when applying valuation-based strategies.

The existing literature provides a rich foundation for understanding the role of valuation in investment strategies. While traditional valuation methods such as DCF and P/E ratios remain widely used, newer strategies leveraging quantitative techniques and behavioral insights offer fresh perspectives. The ongoing debate between value and growth investing continues to evolve, with each strategy exhibiting strengths depending on market conditions.

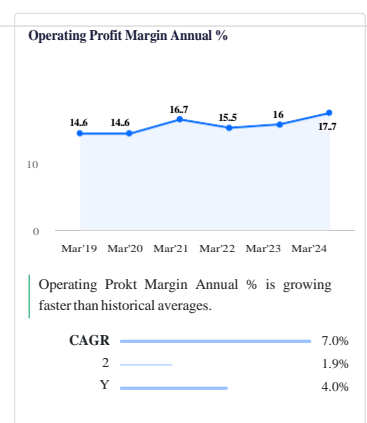
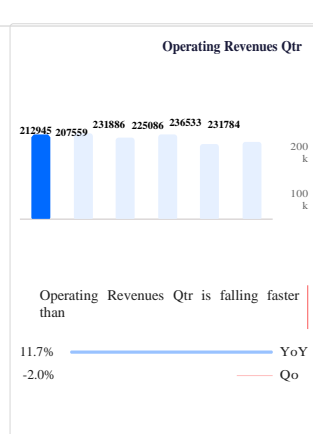
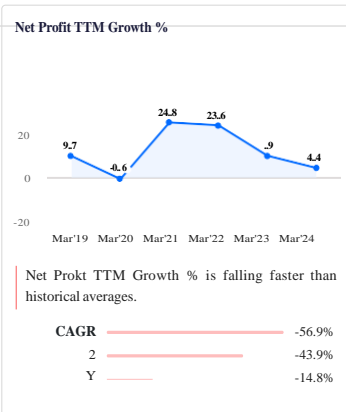
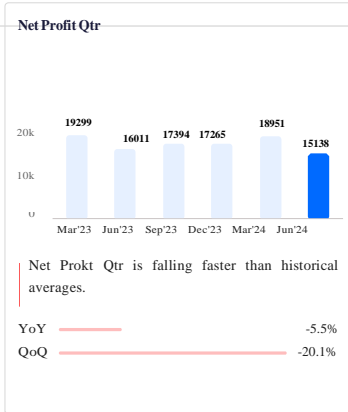
Objective of the study

The primary objective of this study is to **analyze the role and impact of valuation techniques on financial investment strategies** and their effectiveness in driving investment decisions across different market conditions. Specifically, the study aims to:

The primary objective is to analyze the role and impact of valuation techniques on financial investment strategies and their effectiveness in driving investment decisions. Specifically, the study aims to:

1. Evaluate how valuation methods contribute to maximizing returns.
2. Compare the performance of different strategies across market conditions.
3. Explore the industry- and market-specific applications of valuation.
4. Bridge the gap between academic theory and practical application.
5. Develop a framework for integrating valuation into investment decision-making.
6. Analyze risk-return correlations in valuation-driven strategies.
7. Contribute new insights to financial literature.

PRICE VOLUME CHARTS



These objectives will help provide a deeper understanding of how valuation influences investment success and offer actionable insights for both academics and financial practitioners.

Methodology of the study

In developing methodology for *The Power of Valuation: A Comprehensive Review of Financial Investment Strategies*, the focus would likely be on a mixed-methods approach combining both quantitative and qualitative analysis. Here's a potential outline of the methodology:

1. Design:

The study will use a descriptive and analytical approach to review various financial investment strategies with a focus on valuation techniques.

2. Data Collection:

- **Secondary Data:** This includes literature reviews, historical market data, and case studies to assess the impact of valuation methods.

3. Sample Selection: Companies across different sectors, including those listed on major indices like Nifty50, will be examined over a 10-20 year period to capture market cycles.

4. Data Analysis:

- **Quantitative Analysis:** Statistical methods such as regression analysis and hypothesis testing will be used to assess risk-adjusted returns.
- **Qualitative Analysis:** Content analysis will identify expert opinions and common themes regarding the effectiveness of various valuation methods.

5. Timeframe and Scope:

A longitudinal study covering 10-20 years of market data will provide insights into valuation trends across global markets.

Example Company for Study:

Reliance Industries Ltd. (RIL)
Sector: Conglomerate

Reason: As India's largest and most diversified company, Reliance Industries provides an ideal case for studying valuation methods like sum-of-the-parts (SOTP) and its application in both growth and value investing.

Data analysis and finding

Financial Key Performance Indicators (KPIs)

1. Revenue and Profit Growth: The company is seeing modest year-over-year increases

in total revenue (5.1%) and net profit (4.0%). However, these growth rates are lower than historical averages, suggesting a slowdown in expansion.

2. Profitability: Operating profit margin has improved significantly (10.7% YoY increase), indicating better operational efficiency. However, the sharp decline in Net Profit TTM Growth (55.7% YoY decrease) is concerning and may point to increasing costs or competitive pressures.
3. Quarterly Performance: Recent quarterly results show stronger growth in operating revenues (11.7% YoY) compared to net profit (5.5% YoY), which could indicate rising costs impacting bottom-line growth.
4. Tax Implications: The substantial increase in annual tax (29.2% YoY) is outpacing revenue and profit growth, which may be affecting overall profitability.
5. Diverging Trends: While some metrics like Operating Profit Margin are improving faster than historical averages, others like Revenue Growth and Net Profit TTM Growth are underperforming, creating a mixed outlook.

In conclusion, Reliance is maintaining

1. Cash from Operating Activity Annual: 158,788 (3.84% YoY increase)
2. Cash from Investing Activity Annual: -114,301 (-70.5% YoY)
3. Cash from Financing Annual Activity: -16,646 (-103.2% YoY)
4. Net Cash Flow Annual: 27,841 (247.7% YoY increase)

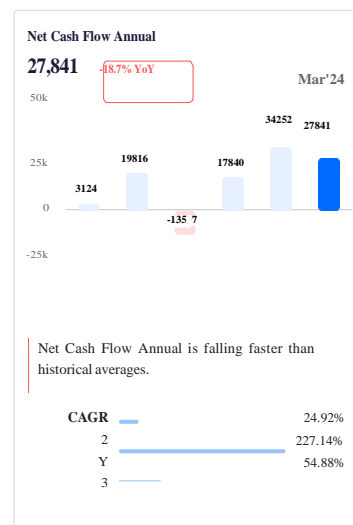
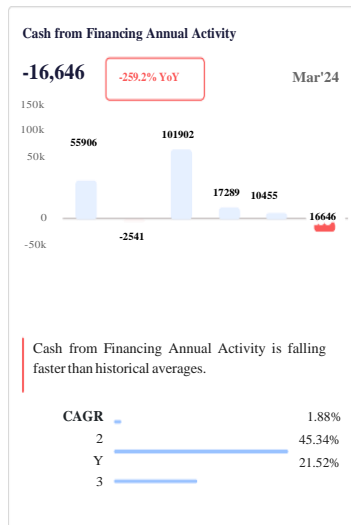
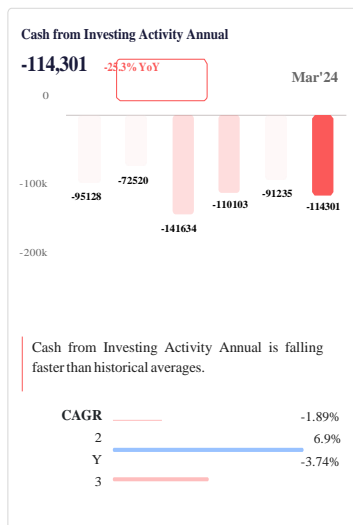
The cashflow data indicates that while operating cash flow is growing slightly, there's a significant increase in cash outflow for investments. Financing activities have shifted from positive to negative, but overall net cash flow has increased substantially.

Financial Ratios:

1. ROE Annual %: 8.8% (20.9% YoY increase)
2. ROCE Annual %: 9.4% (6.2% YoY increase)
3. ROA Annual %: 4.8% (4.1% YoY increase)
4. Current Ratio Annual: 1.2 (23.6% YoY increase)

These ratios show improvements across the board, indicating better profitability and liquidity:

- Return on Equity (ROE) has increased



growth but facing challenges in sustaining its historical performance levels. This suggests the company may be navigating a changing business environment or facing new competitive pressures that are impacting its financial dynamics.

Cashflow and key ratios

The table image shows additional financial information for Reliance Industries Ltd, focusing on cashflow and financial ratios. Here's a breakdown of the key information: Cashflow:

- Return on Capital Employed (ROCE) shows moderate growth
- Return on Assets (ROA) has slightly improved
- The Current Ratio increase suggests improved short-term liquidity

The trends for most of these metrics (shown in the small charts) indicate that while there's growth, it's often lower or falling compared to historical averages. This suggests that while the company is improving in many areas, the

rate of improvement may be slowing down compared to past performance.

Overall, this data paints a picture of a company that's growing and improving its financial position, but potentially facing some headwinds or entering a period of slower growth compared to its historical performance.

Conclusion

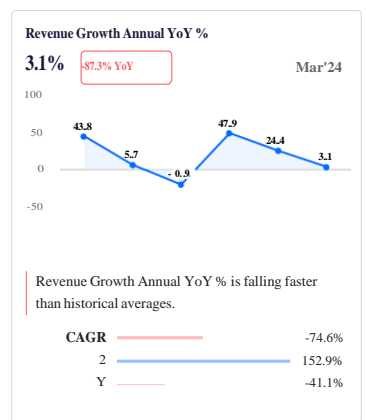
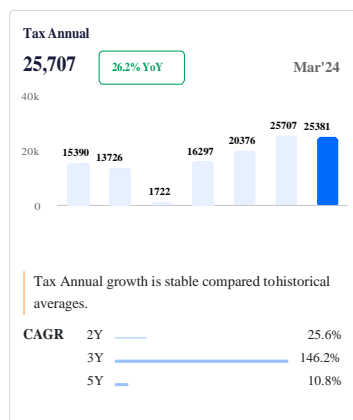
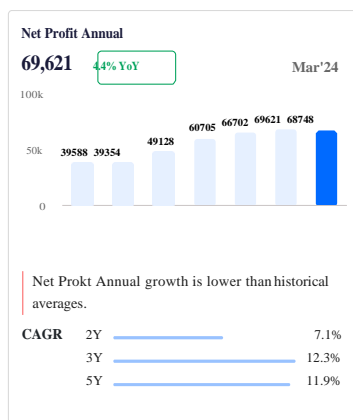
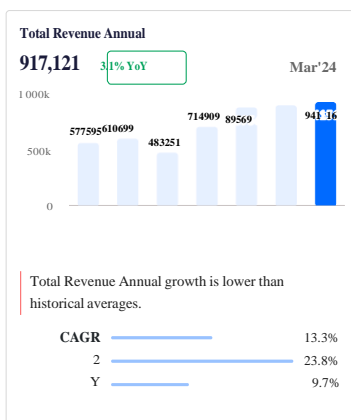
The comprehensive analysis of Reliance Industries Ltd's financial performance reveals the critical importance of thorough valuation in developing effective investment strategies. This case study demonstrates that:

1. Surface-level growth metrics can be misleading without historical context.

approach considering multiple factors is essential for accurate assessment.

6. Short-term performance must be balanced against long-term trends. Reliance's current growth, while positive, shows signs of deceleration that could affect long-term valuation.

This study highlights that effective financial investment strategies must go beyond surface-level metrics to incorporate comprehensive valuation techniques. By analyzing historical trends, operational efficiencies, cash flows, and a range of financial ratios, investors can gain a more accurate picture of a company's true financial health and future prospects. In an



While Reliance shows positive year-over-year growth in revenue and profits, the slowing pace compared to historical averages signals potential challenges.

2. Operational efficiency improvements, as evidenced by the increased operating profit margin, may not always translate to bottom-line growth due to external factors like increased tax burdens or competitive pressures.
3. Cash flow analysis provides crucial insights beyond profit and loss statements. Reliance's significant increase in investment outflows alongside reduced financing inflows suggests a strategic shift that could impact future performance.
4. Financial ratios offer a more nuanced view of a company's health. The improvements in ROE, ROCE, ROA, and current ratio indicate strengthening fundamentals, even as growth rates slow.
5. The divergence between various financial metrics underscores the complexity of valuation. A holistic

ever-changing business environment, the power of thorough valuation remains a cornerstone of successful investment decision-making.

Future research can further explore how advancements in technology, such as AI and machine learning, may transform valuation and investment approaches. Additionally, integrating behavioral insights with quantitative models may lead to more sophisticated strategies that better account for market inefficiencies and investor psychology.

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MILLENNIAL BUYING BEHAVIOUR OF READY-TO-EAT FOOD PRODUCTS: A STUDY WITH SPECIAL REFERENCE TO KANCHIPURAM DISTRICT

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Abstract

This study focused on identifying millennial buying behavior towards Ready-to-Eat food products in the Kanchipuram district—data Sources: Both primary and secondary data were used for the study. The secondary data was acquired via research papers, publications, magazines, and periodicals. The data is gathered from the millennial population in Kanchipuram District who used ready-to-eat food products. The initial data was obtained from the millennial population using structured questionnaires. The study used the convenience sampling. Four hundred questionnaires were provided, and 392 completed questionnaires were gathered from the millennials. Of the 392 questions, seven were excluded owing to inadequate information provided by the millennial, and 385 valid samples were used for the final study. The study revealed that convenience, quality, mood, sensory appeal, price, and stress-free are significant factors influencing the purchasing intentions of instant food products among millennials in Kanchipuram District.

Keywords: Ready to eat food products, Convenience, Quality, Mood, Sensory Appeal, Price, and Stress-free.

Introduction

Food is not only a necessity but a fundamental and essential element of human existence. It provides the vital nutrients and energy necessary for development, growth, activity, health, movement, play, work, cognition, and learning. Nutrition is essential for enhancing health and preventing disease. This intrinsic connection to food demonstrates our fondness for natural elements (Mann et al., 2023). The Indian populace adopted quick food as international fast-food businesses integrated essential Indian culinary preferences, including vegetarian options and assertive non-vegetarian selections, but

omitting meat and pork from their offerings. (Thakur et al., 2020). Millennials increasingly favor convenience foods over making home-cooked meals. (Sihombing et al., 2020). Millennials progressively adopt instant meal products due to globalization and varied culinary traditions (Inbalakshmi et al., 2020). Instant meals considerably influence lifestyles, primarily aimed at young, working individuals. (Patel et al., 2022). It underscores apprehensions over the nutritional quality, health hazards of rapid meal consumption, and possible long-term repercussions (Das & Bhattacharya, 2021). E-commerce platforms substantially impact consumers' decisions,

particularly with food selections (Sharma et al., 2020).

Review of Literature

Jain and Kaur (2020). Millennials like speedy food owing to their fast-paced lifestyles, prolonged working hours, heightened job sharing, and rigorous schedules. Kaur and Singh (2021). Millennials provide ready-to-eat meals characterized by flavor, convenience, and diversity, with their cost-effectiveness enhancing attractiveness. Gupta and Rao (2019). Digital platforms shape millennial dietary patterns by affecting cost and convenience, while online influencers offer innovative avenues for marketers to engage younger consumers. Sharma et al. (2020). Millennials are swayed by internet platforms, often purchasing instant meal goods due to influencer endorsements or prevailing trends. Nonetheless, apprehensions regarding health hazards emerge from the regular intake of these convenience foods. Numerous research, like those by Das and Bhattacharya (2021) stated the processed meals, which constitute a substantial segment of quick food products, frequently result in detrimental health issues. Gupta and Rao (2019) observe that millennials frequently favor convenience over nutritional value in shopping. This indicates a possible disparity between the recognition of health risks and actual consumer purchasing behavior.

Need for the Study

Millennials are a significant and impactful consumer demographic, particularly in urban locales like Kanchipuram District. Their distinctive lifestyle choices, shaped by busy schedules, technological integration, and evolving social dynamics, have resulted in a pronounced tendency towards convenience food products. Despite the increasing demand for products, thorough research on the fundamental factors affecting consumer purchasing behavior is lacking. Understanding these factors is essential for businesses aiming to cater to this particular demographic and politicians' intent to promote healthier food options. The increasing reliance millennials on convenience increases food significant questions about the long-term health, given various of these products processed and lacking in essential nutrients.

Objectives

1. To find out the significant factors influencing the buying behavior of Ready-

to-Eat food products

2. To examine whether the factors influencing the buying behavior of Ready-to-eat food products among millennial

Hypotheses

1. The convenience factors significantly influence the buying behavior of ready-to-eat food products among millennial
2. Quality significantly influences the buying behavior of ready-to-eat products among millennial
3. The Mood factors significantly influence the buying behavior of ready-to-eat products among millennial
4. The Sensory Appeal factors significantly influence the buying behavior of ready-to-eat food products among millennial
5. The Price factors significantly influence the buying behavior of ready-to-eat products among millennial
6. The Stress-free factor significantly influences the buying behavior of ready-to-eat food products among millennial

Research Methodology

This paper intends to determine the factors that impact the purchasing behavior of millennials in the Kanchipuram district who buy ready-to-eat food products. The study employs both primary and secondary data sources. Secondary data was collected from several sources, such as publications, research papers, newspapers, and magazines. The core data was directly acquired from millennials in the Kanchipuram district who consume ready-to-eat food products, and structured questionnaires were utilized as the primary instrument. The convenience sampling approach was utilized, and 385 questionnaires met the criteria for the ultimate analysis. The study's conclusions are derived from this specific sample. The software SPSS 21 was used for analysis. Simple frequency distribution, EFA, and MRA were employed to interpret the results.

Results and Discussion

Demographic Profile of Millennial (n=385)

Demographic profile	No. of Respondents	Percent
Gender		
Male	189	49.1
Female	196	50.9
Age (Years)		
Up to 28-31	160	41.6
32-35	130	33.8

36-439	54	14.0
40-43Y	41	10.6
Marital Status		
Married	218	56.6
Single	167	43.4
Educational Qualification		
Up to HSC	34	8.8
UG	137	35.6
PG	124	32.2
Professional	90	23.4
Monthly Income		
Up to Rs.25,000	85	22.1
Rs.25,001 - 50000	147	38.2
Rs.50,001-75,000	103	26.8
Above Rs.75,000	50	13.0
Occupational Status		
Private	130	33.8
Govt.	95	24.7
Professional	92	23.9
Business	68	17.7
Nature of family		
Nuclear Family	291	75.6

Joint Family	94	24.4
Number of Members in the family		
2 - 4 Members	281	73.0
4 - 6 Members	61	15.8
Above 6 Members	43	11.2

The study reveals that most respondents have advanced education, with 35.6% holding undergraduate degrees and 32.2% having attained postgraduate degrees. Most respondents are employed in the commercial sector, whereas 33.8% are engaged in government employment. Most participants belong to nuclear families, with 73.0% living in households of 2 to 4 members. These features provide a framework for understanding their purchasing behaviors regarding fast food items.

Factors Influencing the Buying Behaviour of Ready-to-Eat Food Products in the Kanchipuram District

The findings indicated a robust correlation between the variables, with a variance ranging from 52.3% to 75.2%. The research indicates that minimizing the 28 variables is essential for accurately depicting commitment variables.

The outcome of Exploratory Factor Analysis for Factors influencing the buying behavior of Instant food products

	Component					
	Convenience	Quality	Mood	SA	Price	Stress-free
Easy to Prepare	.707					
Simple cooking process	.668					
Not taking much time for preparation	.613					
Easy availability	.574					
Simplicity of Storage	.535					
Time-saving	.524					
Simple Process of cleaning	.502					
High-level protein		.661				
Nutritious		.633				
It contains enormous vitamins and minerals.		.616				
Keeps healthy		.613				
Is high fiber and roughage		.588				
No side effects		.540				
Helps cope with Stress			.678			
It helps cope with human life.			.642			
Helps relax			.595			
Keeps awake/alert			.538			
Cheers up			.505			
A pleasant smell of RTE products				.750		

Good Appearance of RTE Products				.621		
It has a pleasurable feel.				.604		
Good taste				.565		
Economical Price					.733	
Different Pricing Options					.623	
Value for money					.528	
Low calories						.760
Helps to control weight						.689
Low fat						.584
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.903					
Bartlett's Test of Sphericity	6012.688 (df=378), p=0.000**					
Variance Explained (%)	13.349	12.970	10.242	9.831	9.282	7.846

The study identified six primary factors: Convenience, Quality, Mood, Sensory Appeal, Price, and Stress-free.

Regression Analysis on Factors Influencing the Buying Behavior of Instant Food Products among millennial in Kanchipuram District

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.707 ^a	.499	.491	.77572

a. Predictors: (Constant), Stress-free, Convenience, Sensory Appeal, Quality, Mood, Price

The multiple correlation coefficient of 0.707 signifies a robust positive association between the purchasing intentions for instant food products and six independent variables: Convenience, Quality, Mood, Sensory Appeal, Price, and Stress-free. The Coefficient of Determination R-square (0.499) indicates that the estimated SRP model accounts for 49.99% of the variance in adjustment, utilizing Convenience, Quality, Mood, Sensory Appeal, Price, and Stress-free as independent variables.

ANOVA test for factors that influence the Purchase of Ready-to-Eat food products among consumers

Model	F	Sig.
1	62.813	.000 ^b

a. Dependent Variable: Purchase Intention; b. Predictors: (Constant), Stress-free, Convenience, Sensory Appeal, Quality, Mood, Price

Table 4 presents the ANOVA test findings on the factors affecting the purchasing behavior of instant food products among millennials in Kanchipuram District. The computed F and p-

value for the determinants affecting the purchasing behavior of instant food products among millennials are 62.813 and <0.001, respectively. The p-value is less than 0.01. The study affirmed that the model is appropriate and determined that the parameters strongly affect the purchasing intentions of millennials about instant food products in the study area.

Coefficients

	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
(Constant)	.410		2.413	.016
Convenience	.112	.113	2.644	.009**
Quality	.125	.149	3.489	.001**
Mood	.110	.129	2.926	.004**
Sensory Appeal	.169	.196	4.734	.000**
Price	.156	.177	3.744	.000**
Stress-free	.266	.292	7.238	.000**

Hypothesis-1

Convenience factors significantly influence the buying behavior of instant food products.

Hypothesis 1 asserts that convenience factors substantially affect millennials' purchasing decisions regarding instant meal products. The statistical analysis reveals a t-value of 2.644 and a p-value of 0.009, below the conventional significance level of 0.05. This signifies that the impact of convenience considerations on millennials' purchasing behavior is statistically significant.

Hypothesis-2**Quality factors significantly influence the buying behavior of millennials for instant food products.**

The statistical study produces a t-value of 3.489 and a p-value below 0.001, signifying a highly significant correlation between quality characteristics and millennials' purchase decisions. The p-value, much lower than the conventional significance threshold of 0.05, substantiates that quality considerations markedly affect millennials' purchasing behavior. The positive t-value indicates that enhanced perceptions of quality in instant food products elevate the likelihood of purchase among millennials.

Hypothesis-3**The Mood factors significantly influence the buying behavior of millennials for instant food products.**

The statistical analysis reveals a t-value of 2.926 and a p-value of 0.004, below the significance level of 0.05. This suggests that emotional variables statistically influence millennials' choices to buy instant meal products. The affirmative t-value indicates that as mood determinants, such as emotional condition or desire, have a more significant influence, the probability of acquiring quick food products escalates. The p-value, being substantially lower than 0.05, dramatically supports the presented hypothesis, affirming that mood considerations considerably influence the purchasing behavior of millennials.

Null Hypothesis-4**Sensory appeal factors significantly influence millennials' buying behavior for instant food products.**

The p-value is significantly lower than the traditional threshold, indicating that sensory appeal substantially affects purchasing behavior. A positive t-value suggests that an increased sensory appeal of rapid food products correlates with millennials' higher likelihood of purchase. Sensory appeal significantly impacts instant food, and this finding corroborates that millennials, particularly, are impacted by their senses.

Null Hypothesis-5**The Price factors significantly influence millennials' buying behavior for instant food products.**

The hypothesis is robustly supported with a p-value of 0.05, indicating that price

substantially influences purchasing behavior. Affordability, perceived value for money, and pricing promotions enhance the probability of millennials choosing instant food products.

Null Hypothesis-6**The Stress-free factor significantly influences millennials' buying behavior for instant food products.**

Given that the p-value is significantly lower than the recognized significance threshold of 0.05, the presented hypothesis is validated, indicating that stress-free factors considerably affect millennials' purchasing behavior. The elevated t-value indicates that when the view of a product as stress-free—simple to prepare, rapid to consume, and necessitating less effort rises, millennials are more inclined to acquire instant food goods.

Conclusion

The research examined the determinants affecting millennials' purchasing behavior for instant food products, concentrating on six principal hypotheses: convenience, quality, mood, sensory appeal, pricing, and stress-relief elements. The study established that convenience is a crucial factor influencing millennials' buying habits. The third aspect, quality, also substantially impacts millennials. Their decisions were further influenced by mood and sensory appeal, as millennials frequently sought comfort and reacted to sensory stimuli such as taste and perfume. Price sensitivity indicates that cost and perceived value influence purchasing decisions. Ultimately, stress-free characteristics exhibited the most significant impact, highlighting the importance of convenience and simplicity in food preparation. The findings indicate that enterprises aiming at millennials must account for quality, convenience, sensory appeal, price, emotional fulfillment, and stress alleviation to effectively address this demographic's needs and sustain a competitive advantage in the instant food sector.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

ANALYSIS OF NON-PERFORMING LOAN DETERMINANTS IN COMMERCIAL BANKS: TIRUCHIRAPPALLI DISTRICT TAMIL NADU

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Abstract

The study aims to identify the factors influencing non-performing loans (NPLs) at the National Bank of Commerce. Data was gathered from 252 respondents, and analysis was conducted using tables, percentages, mean, and standard deviation for five commercial banks in Tiruchirappalli District (Bank of Baroda, Bank of India, Canara Bank, Indian Bank, Indian Overseas Bank, and State Bank of India). The study employed interviews, questionnaires, and documentary evidence for data collection. The factors examined included interest rate, GDP, concentration of lending activities, bank's loan supervision capacity, and economic condition. The findings indicate that interest rate, GDP, bank's loan supervision capacity, and economic condition significantly affect NPL levels, while concentration of lending activities does not. The study recommends that banks establish a robust credit process, including proper customer selection, risk identification, thorough credit analysis, proactive monitoring, and effective recovery strategies for bad loans. Additionally, it suggests the development of clear policies to address ethical standards, implement checks and balances in the credit process, enhance organizational capacity, foster a strong credit culture for loan management, and enforce prudent loan policies. Encouraged by the positive results, the researcher advocates for replicating the study in other lending institutions. To further the literature on non-performing loans, the researcher suggests incorporating models such as the Golem effect, social loafing, inverted pyramid effect, Pollyanna effect, and high default culture effect. The study also proposes investigating the relationship between NPLs and factors like loan size, collateral, credit culture, and credit management information systems.

Keywords: Commercial Bank of India, Non-Performing Loans (NPLs), Loan Growth Rate (LGR), Loan to Deposit Ratio (LDR), Cost Efficiency Ratio (CER), Capital Adequacy Ratio (CAR), Return on Equity (ROE) and Bank Size (SIZE).

Introduction

A bank is a financial institution primarily engaged in accepting deposits from the public and issuing loans, setting it apart from other financial entities. According to Saleem (2005), the term "banks" encompasses commercial banks, merchant banks, finance houses, building societies, savings banks, and

credit unions. Banks are crucial to a country's economic development as they bridge the gap between borrowers and lenders with different liquidity preferences. By pooling funds and issuing loans, banks provide essential liquidity for investments. For small businesses, bank lending is vital due to their limited size and capacity to secure funds from public markets.

Banks' relationships with customers offer valuable insights into their operations, facilitating access to funding, especially during economic downturns. Strong bank-customer relationships can help businesses secure financing in tough times, such as during a recession. Additionally, banks manage payment systems critical to the economy, enabling the swift and secure transfer of funds between accounts through various methods like cheques, credit or debit cards, and electronic transfers. Banks also play a key role in implementing monetary policy.

Review of Literature

Macroeconomic Factors

Louzis et al (2012) and many of various researchers in conjunction with economics factors as determinants of NPLs in addition thought of bank particular variables. actually, they thought of sizable quantity of bank specific variables as a outcome of the determinants of NPLs.

Sergio (1996), an increase inside the danger of loan assets is stock-still during a} very bank's disposition policy, like relatively unselective and inadequate assessment of prospects of the companies and sectors.

Deyoung (1997) and Louzis et al's (2012) unhealthy management, skimping and loss in addition cause high NPAs. unhealthy management policies embrace inefficient credit marking, unhealthy management and follow from borrowers, and lack of collaterals or unhealthy collaterals. Skimping implies less effort banks devote to verify higher loan quality, the refined deal of cost-efficient they're going to be and thus the a great transaction of the number of NPLs area unit progressing to be inside the long run. moral hazard' hypothesis look into the number of capital out there with the banks. It assumes that banks' low-capitalization causes a great agreement of NPLs. totally different bank specific factors have an impression on NPLs square measure banks' diversification likelihood and bank size. The link between bank exact factors and NPLs is uncertain in its direction.

According to Hu et al (2004), massive banks permit managers to appraise loan and devote a lot of resources to check that loan doesn't become unhealthy. Bank size is disapprovingly connected with NPLs. this suggests that larger banks have lesser NPAs since they need bigger capability to regulate

NPLs and additionally they need smart management i.e. their credit marking and different standards followed for loan disbursements are going to be a lot of rigorous Salas and Saurina (2002) Alhassan, Coleman and Andoh, (2014). Bank possession is additionally one in all the variable determinative NPAs of the banking sector. it's typically believed that personal sector is a set of economical that the general public sector. In Asian country we've banks of public sector banks, private sector banks and overseas banks. In Asian country once 1992, all the 3 classes of banks area unit subjected to same prudent and restrictive norms and so level enjoying field was created.

Customer Specific Factors

Gorter and Bloem (2002) NPA loans are largely originated by an inevitable number of wrong economic selections by people and plain bad luck (inclement weather, unexpected price changes for certain products, etc.). Brownbridge, (1998) Borrowers" also be apt to divert the funds to risky investments once they are granted the loans.

Interpretation

The bar chart provides a clear visual representation of the Total Non-Performing Loans (NPLs) and the NPL ratio in Tamil Nadu from 2022 to 2024. Here's an interpretation of the chart:

Total NPLs (in billion INR)

- **2022:** The Total NPLs were 500 billion INR.
- **2023:** The Total NPLs increased to 550 billion INR.
- **2024:** The Total NPLs further increased to 600 billion INR.

There is a consistent upward trend in the Total NPLs over the three years, indicating a rising amount of non-performing loans in absolute terms.

NPL Ratio (in %)

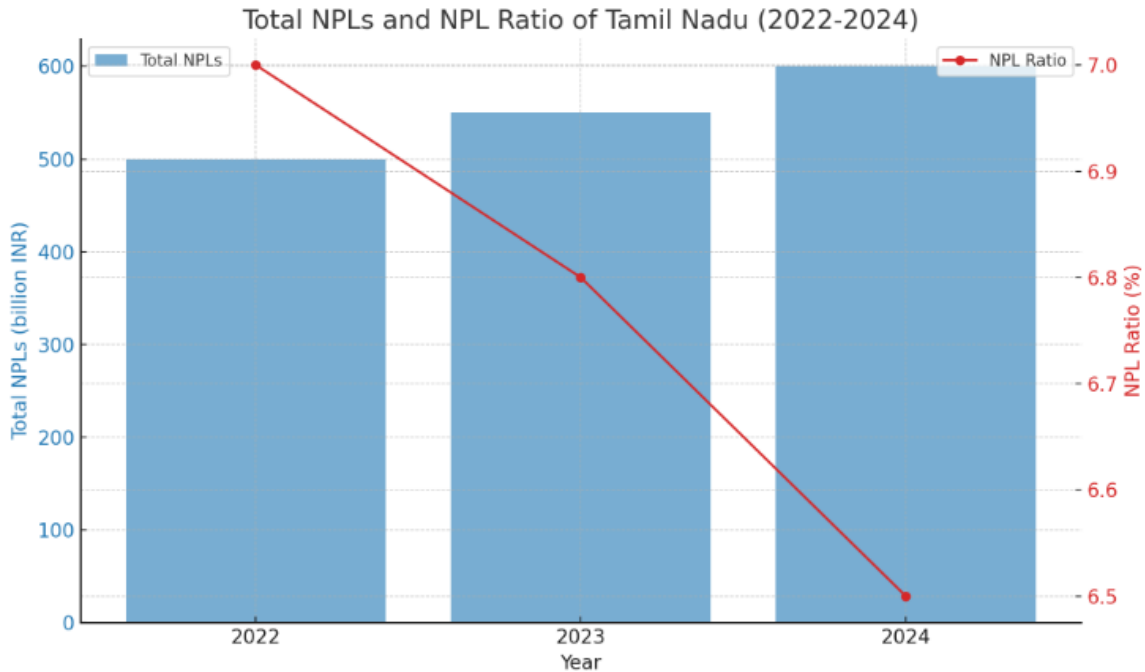
- **2022:** The NPL ratio was 7%.
- **2023:** The NPL ratio slightly decreased to 6.8%.
- **2024:** The NPL ratio continued to decrease to 6.5%.

Despite the increase in Total NPLs, the NPL ratio shows a slight downward trend over the same period. This suggests that while the absolute number of non-performing loans is rising, the overall proportion of NPLs relative to the total loans is decreasing. This could imply that the overall loan book of the

financial institutions is growing at a rate that outpaces the growth of NPLs, improving the

overall health of the loan portfolio.

Total NPLS and the NPLS Ratio of Tamil Nadu from 2022-2024



- **Total NPLs:** Increasing trend (500 billion INR in 2022 to 600 billion INR in 2024).
- **NPL Ratio:** Decreasing trend (7% in 2022 to 6.5% in 2024).

The chart indicates that while the amount of non-performing loans is growing, the financial institutions might be managing their loan portfolios more effectively, as seen by the decreasing NPL ratio.

Factors Affecting Non-Performing Loan Determinants in Commercial Banks

Macroeconomic Factors

1. **Economic Growth (GDP):** A stronger economy generally leads to lower NPLs as businesses and individuals are better able to meet their debt obligations.
2. **Interest Rates:** Higher interest rates can increase the cost of borrowing, leading to higher NPLs as borrowers struggle to repay their loans.
3. **Inflation:** High inflation can erode the real value of income, making it difficult for borrowers to repay loans.
4. **Unemployment Rate:** Higher unemployment can lead to higher NPLs as individuals lose their income sources.
5. **Exchange Rates:** Fluctuations in exchange rates can affect borrowers who have taken loans in foreign currencies, impacting their ability to repay.

Bank-Specific Factors

1. **Loan Supervision Capacity:** Effective monitoring and supervision of loans can reduce the incidence of NPLs.
2. **Credit Policy and Lending Practices:** Stringent credit policies and prudent lending practices can help in minimizing NPLs.
3. **Concentration of Lending Activities:** Over-concentration in high-risk sectors can lead to higher NPLs. However, diversification can mitigate this risk.
4. **Bank Size and Capitalization:** Well-capitalized and larger banks may have better risk management practices, leading to lower NPLs.
5. **Bank’s Management Efficiency:** Efficient management practices can lead to better assessment and mitigation of credit risk.

Borrower-Specific Factors

1. **Borrower’s Financial Health:** The financial stability and performance of the borrower significantly impact their ability to repay loans.
2. **Collateral Quality:** High-quality collateral can reduce the risk of NPLs as it provides security for the loan.
3. **Credit History:** Borrowers with a good credit history are less likely to default on loans.

- Debt-to-Income Ratio:** Higher debt levels relative to income can increase the risk of default.

Other Factors

- Regulatory Environment:** A robust regulatory framework can help in reducing NPLs by ensuring stringent oversight and compliance.
- Political Stability:** Political stability and a favorable business environment can positively influence loan repayment rates.
- Market Conditions:** General market conditions, including demand and supply in key sectors, can impact borrowers' ability to service their loans.

Objectives of the Study

- To examine the relationship between bank-specific factors' effect on NPLs of commercial banks in Tiruchirappalli District.
- To examine the relationship between macroeconomic factors and NPLs of commercial banks in Tiruchirappalli District.

Gender of Respondents

Gender	Frequency	Percent
Male	228	90.7
Female	24	9.3
Total	252	100.0

The above table shows that the majority of the respondents were males, comprising 90.7 percent, followed by females at 9.3 percent. Therefore, the results indicate that the majority of respondents for the study were males. The next table presents and summarizes information with regard to the marital status of the respondents.

Purpose of Loans

Purpose	Frequency	Percent
Agriculture	27	10.7
Business	183	72.7
Education	32	12.9
Housing	40	15.9
Personal	69	27.4
Others	0	0.0
Total	252	100.0

The above table provides a detailed breakdown of the purposes for which loans were taken by 252 respondents. The results

indicate that a significant majority, 72.7 percent, took loans for business purposes. This highlights the crucial role that the bank plays in supporting business activities, possibly reflecting a strong business sector in the area or a strategic focus of the bank on fostering business growth.

Additionally, 27.4 percent of the respondents took loans for personal purposes, showing that a substantial portion of the bank's lending is directed towards meeting individual financial needs. Loans for housing account for 15.9 percent, indicating a noteworthy interest in home financing.

Education loans represent 12.9 percent of the total, suggesting a moderate level of demand for educational financing. Agriculture loans, at 10.7 percent, show that the bank also supports the agricultural sector, albeit to a lesser extent compared to business and personal loans. Notably, there were no loans categorized under "Others," which implies a clear focus on the specified categories.

The distribution of loan purposes suggests that the bank is willing to take calculated risks across various sectors, including agriculture, education, housing, and personal finance. This diversification can help mitigate risks and ensure the bank's stability while meeting the diverse needs of its customers.

Overall, the results indicate that the bank's lending practices are aligned with supporting both business ventures and individual financial needs, thereby contributing to the broader economic development of the region. The next section will present and summarize information regarding whether the loan amounts obtained were sufficient for their intended purposes.

Loan Amount Enough for the Purpose Intended

Purpose Intended	Frequency	Percent
Yes	160	63.5
No	92	36.5
Total	252	100

The above table clearly shows that 63.5 percent of respondents agree that the loan amount was sufficient for the purpose for which they took it, while 36.5 percent disagree. Therefore, the results indicate that the majority of respondents believe that the

amount taken was enough for the intended purpose.

Additionally, all respondents (100%) agreed that they spent their borrowed money for the specified purpose according to the loan agreement. This demonstrates a high level of adherence to the specified use of loan funds, reflecting responsible borrowing and lending practices.

The Status of Recent Loan

The Status of Recent Loan	Frequency	Percent
Fully Paid	115	45.6
Repayment in Schedule	137	54.4
Repayment in Arrears	0	0.0
Total	252	100

The above table shows that 45.6 percent of the respondents had fully repaid their loans, while 54.4 percent were still in the process of repaying their loans. Therefore, the results indicate that the majority of the respondents were still in the process of repaying their loans. The respondents' responses with regard to the interest charged are summarized and presented in the next table.

Other Factors Affecting Loan Repayment

Factors	Strongly Agree (%)	Agree (%)	Neither (%)	Disagree (%)	Strongly Disagree (%)	Total (%)
Bank size	-	33.0	-	51.0	16.0	100
Concentration of lending activities	-	33.6	11.4	29.3	25.7	100
Size and duration of loans	35.0	40.0	7.6	17.4	-	100
GDP	24.7	55.4	14.9	9.0	-	100
Economic growth in the country	45.7	32.9	21.4	-	-	100
Economic condition	42.9	32.1	25.0	-	-	100

From the above results, 75 percent of the respondents agree that economic conditions affect the repayment of loans. Additionally, 72.1 percent agree that GDP

affects loan repayment. Regarding the concentration of lending activities, 45 percent of the respondents disagree that it affects loan repayment. Thus, the results suggest that economic conditions and GDP are positively related to non-performing loans. On the other hand, the results also suggest that the concentration of lending activities is negatively related to non-performing loans.

Supervised for Loan Repayment

Supervised for Loan Repayment	Frequency	Percent
Yes	12	4.8
No	240	95.2
Total	252	100

The table above clearly shows that 95.2 percent of the respondents state that they have not been supervised for loan repayment, while only 4.8 percent say they have been supervised. Therefore, the results indicate that the majority of the respondents have never been supervised for loan repayment. These results suggest that management may be ineffective, which can impact loan repayment and be positively related to non-performing loans.

Factors

Factor	Ranking
The purpose for which the loan will be issued	3
The amount involved	6
The source of repayment	4
The type of account the customer operates	2
The earning power of the customers	1
The collateral security offered	5
The past financial dealings	8
The period of repayment	7
The customer's referees	9
The present government policy on banking lending	10

This table presents factors ranked in terms of their importance in the loan-granting process. The earning power of the customers is ranked the highest, followed by the type of account the customer operates, and the source of repayment. The purpose for which the loan

will be issued is ranked third, while the amount involved and collateral security offered are ranked sixth and fifth, respectively. Other factors such as the period of repayment, customer's referees, and the present government policy on banking lending are also considered, though they are ranked lower in importance.

Conclusion

The analysis of non-performing loan determinants in commercial banks in the Tiruchirappalli district highlights the multifaceted nature of credit risk. Loan-specific, borrower-specific, and bank-specific factors all play crucial roles in determining the likelihood of loans becoming non-performing. By addressing these factors through improved credit assessment, borrower screening, and risk management practices, commercial banks can effectively reduce the incidence of NPLs.

This study provides a comprehensive framework for understanding the determinants of NPLs and offers actionable insights for commercial banks to enhance their credit risk management practices. Future research could explore additional variables, incorporate longitudinal data, and examine the impact of macroeconomic changes on NPL determinants to further refine and expand upon these findings.

The empirical findings corroborate the notion that macroeconomic factors, such as the economic condition and GDP, significantly influence the incidence of non-performing loans. The study discerned a notable inverse correlation between the economic condition and non-performing loans, indicating that robust economic performance leads to a decrease in non-performing loans. Similarly, there was observed a negative relationship between non-performing loans and GDP. Regarding bank-specific variables, the study revealed that banks imposing relatively high interest rates tend to encounter elevated levels of non-performing loans, as evidenced by a significant positive correlation between NPLs and interest rates. However, findings also indicate a contrary association between the concentration of lending activities and non-performing loans, contradicting prior research. Furthermore, the study underscored the substantial impact of a bank's loan supervision capacity on the incidence of non-performing loans. This implies that effective loan supervision capacity translates to lower rates

of non-performing loans, and conversely. Based on these findings, it is imperative for commercial banks to consider various factors when extending loans to mitigate the prevalence of non-performing loans. Specifically, commercial banks ought to regularly reassess their loan interest rates, given the higher delinquency rates associated with heightened interest rates. They should also factor in economic conditions and GDP when disbursing loans, as economic booms may tempt managers to offer riskier loans at lower rates. Additionally, lending institutions should take into account the bank's supervision capacity when granting loans, as inadequate supervision may impede borrowers' ability to repay loans, thereby leading to higher non-performing loan rates.

Lending constitutes a primary business activity for most commercial banks, yet it also poses significant risks to their safety and prosperity. Historically, loan problems, stemming from lax credit standards, deficient bank supervision, or economic weaknesses, have been major contributors to bank losses and failures. Effectively managing loans is thus crucial to a bank's safety and stability. Successful banks achieve a balance between asset quality, growth, and earnings by integrating cultural values, credit policies, and processes. It is essential that a bank's credit culture aligns with its risk appetite, and senior management and the board should periodically assess the bank's credit culture and risk profile. Internal audit and loan review functions play a pivotal role in evaluating and maintaining this alignment.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

CURRICULUM EVOLUTION IN INDIA: FROM COLONIAL STRUCTURES TO NEP 2020'S HOLISTIC APPROACH

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Abstract

The evolution of India's education system has been profoundly influenced by colonial interventions and policies that shaped the content, structure, and objectives of education. The British-imposed education system in the 19th century aimed primarily to serve the needs of colonial administration, prioritizing the English language, Western knowledge, and rote memorization over critical thinking, creativity, and indigenous knowledge systems. Post-independence, India made significant efforts to reform its education system, seeking to decolonize the curriculum and align it with the socio-economic and cultural needs of an independent nation. The National Education Policy (NEP) 2020 marks a critical moment in this ongoing journey, offering a vision for a holistic, inclusive, and multidisciplinary education system that prepares learners for the complex challenges of the 21st century. This paper explores the historical trajectory of curriculum development in India, comparing colonial education frameworks with modern reforms under NEP 2020. It examines the ideological foundations of these systems and their impact on Indian society while critically evaluating NEP 2020's potential to reshape Indian education.

Keywords: Colonial Interventions, Policies, Socio-Economic, Cultural Needs, NEP 2020, Education.

Introduction

Curriculum development is a dynamic process that reflects a nation's goals, aspirations, cultural values, and socio-economic priorities. In India, the evolution of curriculum development is deeply tied to its colonial past, where the British colonial administration imposed an education system designed to serve its own interests. The curriculum introduced under British rule favoured Western knowledge and English-medium instruction, sidelining India's diverse languages, knowledge systems, and cultural traditions.

The post-colonial period marked significant attempts at curriculum reform as Indian policymakers sought to realign the education system to reflect the country's own

values and developmental needs. However, the colonial legacy persisted in many areas, especially in terms of pedagogical methods that emphasized rote memorization and examination-driven learning. The National Education Policy (NEP) 2020 represents a significant departure from past approaches, proposing a more flexible, holistic, and student-centred curriculum that emphasizes creativity, critical thinking, and vocational skills alongside academic learning.

This study delves into the historical evolution of curriculum development in India, exploring the impact of colonial education structures and how NEP 2020 aims to decolonize and transform the Indian education system. The comparative analysis offers insights into the challenges and opportunities

presented by NEP 2020 in creating a more inclusive and globally competitive education system.

1. Colonial Education and Curriculum Structures in India

1.1 Historical Context

Before the advent of British colonial rule, India had a diverse and flourishing system of education that varied across regions and communities. Pathshalas (traditional Hindu schools) and madrasas (Islamic institutions) played key roles in imparting education in subjects ranging from theology, philosophy, and literature to mathematics and astronomy. These indigenous systems were characterized by their close alignment with local socio-cultural contexts and needs, offering instruction in vernacular languages.

The arrival of the British East India Company in the 18th century marked the beginning of a gradual transformation in the educational landscape. Initially, the British administration showed little interest in reforming Indian education, but by the early 19th century, they recognized the potential of an educated Indian class in facilitating their administration and consolidating their rule. As India's economy became increasingly integrated into the global economy under British control, the need for a bureaucratic workforce led to the introduction of Western education in India.

1.2 Macaulay's Minute and the English Education Act of 1835

The pivotal moment in shaping colonial education policy came with Lord Thomas Babington Macaulay's Minute on Indian Education in 1835. Macaulay's vision for education in India was grounded in the belief that Western knowledge, particularly English language and literature, was inherently superior to Indian knowledge systems. In his now infamous words, Macaulay argued that "a single shelf of a good European library was worth the whole native literature of India and Arabia."

Macaulay's recommendations culminated in the passage of the English Education Act of 1835, which made English the medium of instruction in Indian schools and significantly altered the curriculum. The colonial government prioritized subjects such as English literature, European history, and Western science, while traditional Indian

subjects like philosophy, Sanskrit, and Persian were relegated to the periphery.

The objective was to create a class of Indian intermediaries who could assist in the colonial administration by acting as translators, clerks, and lower-level bureaucrats. The curriculum was thus designed to meet the administrative needs of the colonial state rather than to foster critical thinking or creativity among Indian students. The colonial education system effectively alienated Indian learners from their cultural heritage and created a dependency on Western knowledge and language.

1.3 The Curriculum and Pedagogy of Colonial Education

The pedagogical methods employed in colonial education were rooted in rote learning and didactic instruction. Memorization of texts, often in English, was prioritized over conceptual understanding or critical engagement with the material. This approach was aligned with the colonial administration's objective of producing compliant clerks and administrators rather than independent thinkers.

Examinations became the primary method of assessment, further reinforcing rote learning. Success in education was measured by a student's ability to pass these exams, which were designed to assess retention of information rather than comprehension or problem-solving skills. This examination-centric approach created a culture of surface learning, where students focused on memorizing facts rather than engaging deeply with the material.

In addition to the curriculum's focus on Western subjects, colonial education also reinforced social hierarchies. Access to education was largely restricted to the elite classes, particularly those living in urban centres. Rural populations, women, and marginalized communities had limited access to formal education, and even when they did, the curriculum did not reflect their cultural contexts or address their specific needs.

1.4 Impact of Colonial Curriculum on Indian Society

The colonial curriculum left a lasting legacy on Indian society, particularly in the form of linguistic and cultural alienation. English became the language of power, prestige, and economic opportunity, while regional languages were devalued. This

linguistic hierarchy created deep divisions within Indian society, as access to English-medium education became a marker of social and economic status.

Moreover, the focus on rote learning and examinations entrenched an education system that prioritized compliance over creativity. Students were trained to follow instructions and regurgitate information, rather than to think critically or innovate. This emphasis on conformity limited the development of intellectual diversity and entrepreneurial spirit in Indian society, a challenge that persists in many areas of the Indian education system even today.

2. Post-Independence Reforms in Indian Education

2.1 Early Efforts to Reform the Curriculum

The period following India's independence in 1947 was marked by a growing recognition of the need to decolonize the education system and develop a curriculum that was more aligned with the nation's cultural heritage and developmental priorities. The first major initiative in this direction was the establishment of the University Education Commission in 1948, chaired by Dr. S. Radhakrishnan. The Commission emphasized the importance of integrating Indian philosophy, languages, and arts into the curriculum, reflecting a desire to move away from the Eurocentric focus of colonial education.

However, despite these efforts, many of the colonial structures and practices continued to shape the Indian education system. The dominance of English as the medium of instruction, the emphasis on rote learning, and the examination-driven nature of the curriculum persisted, even as policymakers sought to develop a more indigenous and inclusive system of education.

2.2 The Kothari Commission and the 1968 National Education Policy

The most significant attempt to reform Indian education in the post-independence period came with the Kothari Commission (1964-66). The Kothari Commission's report, titled "Education and National Development," laid the groundwork for India's first comprehensive National Education Policy (NEP) in 1968.

The 1968 NEP called for a national system of education that promoted social justice, national integration, and economic

development. The policy sought to address the shortcomings of the colonial system by introducing vocational education, promoting regional languages, and encouraging the development of scientific temper among students. However, despite its progressive vision, the implementation of the 1968 NEP faced significant challenges, including a lack of infrastructure, trained teachers, and financial resources.

2.3 The 1986 National Policy on Education and Subsequent Reforms

The 1986 National Policy on Education (NPE) marked another significant step in India's efforts to reform the education system. This policy was introduced in response to growing concerns about the quality and accessibility of education in India, particularly in rural areas and among marginalized communities.

The 1986 NPE emphasized the need for universal access to education, with a focus on promoting equity and social justice. The policy also called for the modernization of the curriculum, with a greater emphasis on science, technology, and environmental education. The introduction of Operation Blackboard aimed to improve the quality of primary education by providing essential infrastructure and resources to schools.

Despite these reforms, the challenges of examination-driven education, rote learning, and inequalities in access to education persisted. The colonial legacy continued to cast a long shadow over the Indian education system, with many of the systemic issues entrenched during British rule continuing to affect the quality and accessibility of education across the country.

2.4 Impact of Post-Independence Reforms on Indian Society

The post-independence reforms in Indian education were marked by significant achievements, such as the expansion of access to education and efforts to integrate India's diverse cultural heritage into the curriculum. However, these reforms were also characterized by persistent challenges. The education system remained highly centralized and examination-focused, with a continued emphasis on rote learning. The failure to fully decolonize the curriculum meant that English-medium instruction continued to dominate, particularly in higher education, reinforcing

the linguistic hierarchies established during the colonial period.

The post-independence education policies did manage to make incremental improvements in terms of expanding access to education for marginalized communities, particularly through programs aimed at improving rural education, women's education, and vocational training. However, the persistence of the colonial model of education meant that the curriculum remained largely disconnected from the local context, particularly in terms of language, pedagogy, and content.

The socio-economic divide between urban and rural students, and between English-medium and vernacular-medium schools, grew wider over the decades. As a result, the Indian education system, despite several reforms, struggled to meet the needs of a rapidly growing and diverse population, leading to widespread calls for a more fundamental overhaul of the education system by the end of the 20th century.

3. The National Education Policy (NEP) 2020: A Transformative Vision

3.1 The Philosophical Foundations of NEP 2020

The National Education Policy (NEP) 2020 marks a paradigm shift in Indian education. For the first time in decades, NEP 2020 offers a comprehensive and forward-looking vision that addresses the shortcomings of previous education policies. NEP 2020 is grounded in the principles of equity, access, quality, and inclusivity, while also promoting multidisciplinary learning, creativity, and critical thinking.

One of the key philosophical shifts in NEP 2020 is its emphasis on holistic education. Unlike the colonial-era curriculum, which was designed to produce a class of bureaucrats, NEP 2020 envisions an education system that nurtures well-rounded individuals capable of critical thinking, innovation, and adaptability. The policy is also firmly rooted in India's civilizational values, promoting respect for the country's diverse cultural heritage while also preparing students to navigate the challenges of a rapidly globalizing world.

By placing the learner at the center of the education system, NEP 2020 aims to transform the pedagogical approach to education in India, moving away from rote learning and examination-driven education towards a

system that encourages experiential learning, problem-solving, and collaborative learning.

3.2 Early Childhood Care and Education (ECCE)

One of the most transformative aspects of NEP 2020 is its focus on Early Childhood Care and Education (ECCE), which emphasizes the importance of education in the foundational years (ages 3-8). Recognizing that early childhood education lays the foundation for lifelong learning, NEP 2020 seeks to ensure universal access to quality preschool education, which was largely neglected in earlier education policies.

The policy advocates for play-based, activity-based, and discovery-based learning, which is a significant departure from the traditional model of early education that focused on rote memorization even at a young age. This approach is designed to foster curiosity, creativity, and cognitive development in young learners, setting the stage for future academic success.

3.3 Multidisciplinary and Holistic Education

NEP 2020 introduces a multidisciplinary approach to education that aims to break down the silos between academic streams such as science, arts, and vocational education. This is in stark contrast to the colonial education system, which imposed rigid boundaries between academic disciplines. By promoting flexibility in subject choices, NEP 2020 allows students to pursue their passions and interests, whether in science, humanities, or vocational fields.

The policy emphasizes the importance of a well-rounded education that goes beyond traditional academic subjects to include sports, arts, ethics, and life skills. This holistic approach is designed to nurture students' physical, mental, and emotional well-being while preparing them for the diverse challenges of the modern world.

For example, a student under NEP 2020 could study mathematics alongside music, or engineering with psychology, promoting an interdisciplinary approach that fosters creativity and innovation. This flexibility also allows students to develop a broader range of skills, including critical thinking, communication, problem-solving, and collaboration—skills that are essential in the 21st-century economy.

3.4 Vocational Education and Skill Development

One of the most important reforms introduced by NEP 2020 is its emphasis on vocational education. Unlike the colonial education system, which focused almost exclusively on academic subjects, NEP 2020 recognizes the importance of equipping students with practical skills that can be applied in the workforce. The policy envisions vocational education as an integral part of the school curriculum, starting from Grade 6 onwards.

NEP 2020 aims to integrate vocational education into mainstream education, ensuring that students acquire hands-on skills in areas such as carpentry, plumbing, gardening, coding, and robotics. This move is designed to reduce the stigma associated with vocational education and to ensure that all students, regardless of their academic orientation, have the opportunity to develop employable skills.

The policy also advocates for internships and apprenticeships, enabling students to gain real-world experience in various fields. By promoting a blended approach that combines academic learning with practical skills, NEP 2020 seeks to prepare students for a range of career options, from blue-collar jobs to high-tech industries.

3.5 Flexible Curriculum and Assessment Reforms

NEP 2020 introduces a competency-based curriculum that focuses on developing core competencies such as critical thinking, problem-solving, and collaboration, rather than just memorizing content. This is a significant departure from the colonial education system, which prioritized rote learning and the retention of facts.

The policy also calls for the replacement of the current system of high-stakes board exams with a more flexible and holistic approach to assessment. Instead of relying solely on annual or semester-end exams, NEP 2020 proposes regular formative assessments that evaluate students on a broad range of skills and competencies. This shift is intended to reduce the pressure of exams and to promote continuous learning.

Project-based learning, portfolio assessments, and peer evaluations are some of the methods that NEP 2020 recommends to assess students' progress. These methods are designed to evaluate not only academic

knowledge but also creativity, collaboration, and leadership skills. By adopting a more holistic approach to assessment, NEP 2020 seeks to create a more student-friendly and equitable education system.

3.6 Language and Multilingual Education

One of the most debated aspects of NEP 2020 is its focus on multilingual education. The policy advocates for the mother tongue or regional language to be the medium of instruction at least until Grade 5, and preferably until Grade 8 and beyond. This represents a significant departure from the colonial legacy, which privileged English as the language of education and administration.

The policy emphasizes the cognitive benefits of learning in one's mother tongue, such as better comprehension, retention, and critical thinking skills. At the same time, NEP 2020 recognizes the importance of English in the globalized world and encourages students to become proficient in both English and regional languages.

The policy envisions a three-language formula, in which students are encouraged to learn their mother tongue, Hindi, and English, along with other Indian or foreign languages as per their interest. This multilingual approach is designed to promote national unity while also preparing students for the demands of the global economy.

4. Challenges in Implementing NEP 2020

While NEP 2020 presents a bold and ambitious vision for the future of Indian education, its successful implementation faces several challenges.

4.1 Infrastructure and Resource Constraints

One of the biggest challenges in implementing NEP 2020 is the lack of infrastructure and resources in many parts of India, particularly in rural areas. The policy's emphasis on multilingual education and vocational training will require significant investments in teacher training, curriculum development, and the creation of new educational materials. Ensuring that every school has access to high-quality learning resources in multiple languages, as well as the infrastructure needed for vocational training, will be a major logistical challenge.

4.2 Teacher Training and Capacity Building

The shift from a rote-learning-based system to a competency-based, experiential learning system will require a radical transformation in teacher education and

training. Teachers will need to be trained in new pedagogical methods that promote active learning, critical thinking, and creativity. However, many teachers in India, especially in rural areas, are not adequately equipped to implement these changes. Ensuring that teachers receive the necessary professional development and support will be crucial for the success of NEP 2020.

4.3 Curriculum Reform and Examination System

Aligning curriculum reforms with changes in the assessment and examination system is another major challenge. The shift from an examination-centric system to one that emphasizes continuous, holistic assessment will require significant reforms at both the school and board examination levels. NEP 2020 envisions a system where formative assessments, project-based learning, and portfolio evaluations take precedence over traditional high-stakes board exams. However, the infrastructure to conduct these varied forms of assessments is not yet in place across the country. The Central Board of Secondary Education (CBSE), state boards, and other educational institutions will need to work in tandem to ensure that assessment reforms are effectively implemented and standardized across regions, while still accommodating local contexts and languages.

Additionally, the deeply ingrained culture of examination-based learning will take time to change. Students, teachers, and parents have long associated educational success with high marks in board exams, and shifting this mindset to appreciate other forms of assessment will require extensive public awareness campaigns and ongoing professional development for educators.

4.4 Equity and Access: Bridging the Digital Divide

NEP 2020 emphasizes technology-enhanced learning and proposes the use of digital tools and platforms to improve access to education, especially in rural and underserved areas. However, the digital divide in India is a major obstacle to achieving this vision. A significant portion of the population, particularly in rural areas, lacks access to reliable internet, digital devices, and electricity, which hinders their ability to participate in online education initiatives.

This digital divide became especially apparent during the COVID-19 pandemic,

when schools shifted to online learning. Many students from marginalized communities were left out of the education system because they lacked the necessary resources to engage in digital learning. NEP 2020's focus on digital education will require not only expanding internet and technology access across the country but also ensuring that schools are equipped with the infrastructure and training necessary for effective technology integration.

4.5 Language Policy and Regional Challenges

The three-language formula proposed by NEP 2020 has been a source of controversy, particularly in non-Hindi-speaking states. While the policy aims to promote multilingualism and encourage the learning of regional languages, it has been met with resistance in states like Tamil Nadu, where there is a strong preference for bilingual education (mother tongue and English) over the inclusion of Hindi. The challenge lies in balancing the promotion of regional languages while also maintaining national unity and addressing local linguistic preferences.

Moreover, the implementation of mother tongue-based education up to Grade 5 presents logistical challenges, especially in multilingual regions where students speak one language at home but are exposed to different languages in their communities and schools. The development of high-quality learning materials in multiple regional languages and the recruitment of teachers proficient in these languages will be critical to ensuring the success of this policy.

4.6 Inclusivity and Education for All

NEP 2020 places a strong emphasis on inclusive education, particularly for marginalized and disadvantaged groups such as Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs), and persons with disabilities. The policy envisions an education system that provides equal opportunities for all learners, regardless of their socio-economic background. However, achieving this goal will require addressing long-standing social inequalities and disparities in access to education.

Efforts to improve access to quality education for marginalized communities will need to focus on strengthening infrastructure, providing financial support through scholarships and subsidies, and addressing language barriers that can hinder learning

outcomes. Additionally, special attention must be given to ensuring that inclusive pedagogical practices are adopted in classrooms, with teachers receiving the necessary training to cater to diverse learning needs.

5. Implications of NEP 2020 for the Future of Indian Education

5.1 Fostering Innovation and Creativity

One of the most promising aspects of NEP 2020 is its focus on nurturing creativity, innovation, and entrepreneurship. By promoting multidisciplinary education, experiential learning, and critical thinking, the policy aims to move away from the rigid, hierarchical structures of the colonial education system and foster a more dynamic, learner-centric environment. The introduction of subjects such as artificial intelligence, coding, and entrepreneurship at the school level, combined with an emphasis on hands-on learning, is intended to prepare students for the future workforce, equipping them with the skills needed to thrive in a rapidly changing global economy.

NEP 2020's vision of education as a tool for nation-building aligns with the goal of producing innovative thinkers and global citizens who can contribute to India's socio-economic development while also preserving its rich cultural heritage. The policy encourages incubation centers, research facilities, and partnerships with industry to bridge the gap between academia and practical applications, fostering an ecosystem where students are motivated to pursue creative solutions to real-world problems.

5.2 Addressing India's Demographic Dividend

India's demographic dividend presents both a challenge and an opportunity. With one of the youngest populations in the world, India's education system must equip its youth with the skills needed to participate in the global knowledge economy. NEP 2020 aims to achieve this by focusing on 21st-century skills such as digital literacy, problem-solving, and collaboration. The policy's emphasis on vocational education, lifelong learning, and flexible learning pathways is designed to ensure that India's young population can adapt to the evolving demands of the labour market.

By integrating vocational training into mainstream education and promoting skill development from an early age, NEP 2020 seeks to create a future-ready workforce that is

capable of driving innovation and growth in sectors such as technology, manufacturing, and services. Additionally, the policy's focus on entrepreneurship is intended to empower young people to create their own opportunities, rather than relying solely on traditional forms of employment.

5.3 Global Competitiveness and Educational Excellence

NEP 2020 places a strong emphasis on making Indian education globally competitive. By promoting multidisciplinary learning, flexibility, and internationalization, the policy aims to elevate the standards of Indian education to meet global benchmarks. The establishment of international collaborations, the facilitation of student and faculty exchanges, and the introduction of global best practices are intended to position India as a global hub for education and research.

The policy also recognizes the importance of higher education in driving national development. NEP 2020 proposes significant reforms to the higher education system, including the establishment of multidisciplinary universities, the promotion of research and innovation, and the simplification of regulatory frameworks to enhance the quality of education and research output. By emphasizing academic freedom, institutional autonomy, and innovation, NEP 2020 seeks to create world-class institutions that can compete with the best universities globally.

5.4 Cultural Preservation and Indigenous Knowledge Systems

While NEP 2020 is forward-looking in its focus on global competitiveness, it also emphasizes the importance of preserving India's rich cultural heritage and indigenous knowledge systems. The policy advocates for the integration of Indian languages, arts, literature, and traditional knowledge into the curriculum, ensuring that students are not disconnected from their cultural roots.

By promoting the study of classical Indian languages, Sanskrit, regional literature, and traditional arts and crafts, NEP 2020 seeks to revive interest in India's intellectual and cultural heritage. This approach is designed to foster a sense of pride and national identity among students while also encouraging them to explore the wisdom of ancient knowledge systems, such as Ayurveda, yoga, and traditional agriculture.

The inclusion of ethics, moral reasoning, and environmental consciousness in the curriculum also reflects a holistic approach to education that goes beyond academics to encompass the development of character, values, and a sense of responsibility towards society and the environment.

Conclusion

The National Education Policy 2020 represents a bold and visionary attempt to reform the Indian education system by addressing the deep-seated challenges inherited from its colonial past. NEP 2020's focus on multidisciplinary education, holistic development, and inclusive learning marks a significant departure from the rigid, examination-driven education model introduced during British rule. By emphasizing creativity, critical thinking, vocational skills, and cultural preservation, the policy seeks to create a more flexible, innovative, and globally competitive education system that is responsive to the needs of 21st-century learners.

However, the successful implementation of NEP 2020 will depend on overcoming significant challenges, including infrastructure constraints, teacher training, and equity in access to education. Bridging the digital divide, addressing regional language concerns, and ensuring the integration of inclusive practices across all levels of education will require concerted efforts from policymakers, educators, and civil society.

If effectively implemented, NEP 2020 has the potential to transform the Indian education system, empowering future generations to achieve their full potential and

contribute to India's socio-economic development while preserving its rich cultural heritage. The policy's focus on holistic education and lifelong learning positions India to harness the full potential of its young population and emerge as a global leader in education, innovation, and knowledge creation.

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Available online @ www.iaraindia.com
RESEARCH EXPLORER - A Blind Review & Refereed Quarterly International Journal
ISSN: 2250-1940 (P) 2349-1647 (O)
Impact Factor: 3.655(CIF), 2.78(IRJIF), 2.77(NAAS)
Volume XIII, Issue 44
August - October 2024
Formally UGC Approved Journal (63185), © Author

A STUDY ON THE PERCEPTION ABOUT ETHICAL ACCOUNTING PRACTICES AMONGST THE TEACHERS AND PRACTISING ACCOUNTANTS OF NORTH 24 PARGANAS

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Abstract

Ethics is a set of moral issue or aspect such as rightness. It is the discipline dealing with what is good and bad with moral duty and obligation. It uplifts the quality and consistency of services rendered by professional accountants. In the previous three decades collapse of several companies are observed, and in most of the cases the reason behind these unethical practices of accounting. So, it is a burning issue. In this research paper we tried to highlight an overview of ethical accounting practices prevailing amongst the teachers and practicing accountants of North 24 Parganas.

Keywords: Ethics, Accounting, Auditing, Financial Reports.

Introduction

Before the discuss about ethics, it is essential to know the meaning of Value, Moral and Norms as very often we use these terms as synonymously. But there are differences. Value in day-to-day work describe as religious, cultural, political, ideological acceptances, attitude, principles, opinions. In other way it can be stated as it is a particular attitude or belief that people think which are valuable to them. Morals is derived from Latin word 'mores' which means habits or customs. Morality is to perform one's duty to other's or performing one's duty by some moral norm. Norms are fundamental concept of social science that indicates to the rules that control behaviour of a group or community.

The word Ethics is derived from the Greek word 'ethos' (character). It is an act to choose right things and result in good behaviour. It is a set of moral principles or values.

Ethics in accounting was posed after collapse of Enron in 2001. It was one of the biggest scandals of the recent century that became the origin of big reformations in corporate governorship across the world, affecting accounting and auditing deeply. Examining collapse of Enron reveals important points, one of which was weakness of internal controls and financial reporting as a result of interorganizational moral descension in accountants and auditors. Professional accountants (those who are rendering services to their clients against fees) and practicing accountants (those who is employed in public and private concern for salary) are liable to their clients or organisation for their services. Their responsibility to perform duty with ethical values, honesty, integrity, objectivity, confidentiality to the public interest.

According to **Zorna** in his study, ethics can be understood as some set of the moral rules and norms that influence the

individuals and organisations and also determine the ways in which individuals and organisations operate or function in business and personal activities.

Dr. Manoj S. Kamat Dr. Manasvi M. Kamat observed that the basic principle of ethics associated with accounting profession encompasses professional integrity, confidentiality, as well as professional behaviour and competence.

The **International Ethics Standards Board for Accountants (IESBA)** believes a single set of high-quality ethics standards enhances the quality and consistency of services provided by professional accountants, thus contributing to public trust and confidence in the accountancy profession. The

IESBA sets its standards in the public interest with advice from the IESBA Consultative Advisory Group (CAG) and under the oversight of the Public Interest Oversight Board (PIOB).

Therefore it is crucial to maintain accounting principle, transparency, fair view of accounting reports. Moreover reliability is an important aspect of Accounting reports for the stakeholders. Decisions are taken by stakeholders on the basis of accounting reports. Proper, fair, transparent and reliable accounting information are beneficial for professional accountant, business organisations and economic growth of the nation.

Importance of Ethics in Accounting:



Brief Review of Literature

Prof. G. Soral & Anju Kamra (2013) in his study **Creative accounting vis-à-vis ethics: some case studies from India and abroad** has clearly stated in their paper that proper knowledge of ethics and information of analysing financial statements may reduce unethical practices. Unethical practices by the companies and auditors for their personal gain can be reduced by increasing awareness.

Paul Jajairam (2017) in his study **Ethics in accounting** says that it is compulsory for the government and public governing bodies to promote and develop ethical practices in accounting firm.

Tania Alves De Jesus (2020) states in his research **Creative accounting or fraud? Ethical perceptions among accountants**

about accounting manipulation practices that accountant are more ethically uncomfortable with creative accounting practices that are closer to the limits of fraud and show less ethical discomfort with creative accounting practices that are more distant from fraud.

Shaikh JM (2023) in his study **Considering the ethics of accounting in managing business accounts: a review** concludes that it is essential for accounting professionals and organisations to highlight the ethics in accounting practices and the need for ongoing education, training and support to promote ethical behaviour in workplace.

Rafael Romero-Carazas et.al (2024) highlights in their study **The Ethics of the Public Accountant: A Phenomenological Study** that significance of ethics in the role of

public accountant, emphasizing that an accountant must be ethical, fair, honest and responsible to the welfare of clients.

Research Methodology of the Study

Nature of Data-The required primary data was collected through a structured questionnaire featuring both open-ended and close-ended questions based on first-hand experiences. Initially demographic questions were posed, followed by dichotomous and multiple-choice questions, 5-point Likert scale questions.

Method of Sampling- A simple random sampling technique were employed to collect data from 250 respondents teachers and practicing accountants from North 24 Parganas.

Structures of contents of Questionnaire

Part A of the analysis comprised the demographic profile of the respondents, including age, gender, marital status, highest academic degree and years of experience etc.

Part B of the analysis dealt with research questions on ethics education addressing the respondents about knowledge of ethics gather from university, work place, importance of ethics , suggestion about ethic education development courses etc.

Part C of the analysis focused on Exploratory Factor Analysis performed through Principal Component Analysis (PCA) with varimax rotation.

Section-A analyzed demographic profile-related questions of the respondents such as age, gender, marital status, highest academic degree, years of experience. The tool used here are mainly Frequency Distribution Tables and Descriptive Statistics.

Section-B analyzed the questions related to the research question on ethics education which contains Whether you received Accounting Ethics Education at University Level? Whether you received

Accounting Ethics Education at Corporate Level? Do you think Ethics Education is important to the Accounting Profession? etc.

Section C analysed the research-specific questions which were asked to the respondents through fill-in structured questionnaires measured in 5-Point Likert Scale and the specific tools used here for analysis are mainly frequency distribution and frequency tables, prepared through Microsoft Excel and SPSS 25.

Data Analysis

Reliability Test

After conducting a Reliability Statistics test in SPSS 25, the Cronbach's Alpha based on standardized items is found to be 0.997, which proves the reliability of the questionnaire and data.

Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.997	.997	27

Validity Test

Further, for validity test, we have conducted Friedman test and Tukey test. In statistics, Tukey's test of additivity, called for John Tukey, is a method used in two-way ANOVA (regression analysis including two qualitative factors) to measure whether the factor variables are additively associated to the expected value of the response variable. It can be useful when there are no fake values in the data set, a situation in which it is impossible to directly estimate a fully general non-additive regression structure and still have information left to estimate the error variance. The test statistic planned by Tukey has one degree of freedom under the null hypothesis, hence this is often called "Tukey's one-degree-of-freedom test." The Turkeys test for no additivity is found to be significant which approves that there are no fake values in the data set.)

ANOVA with Friedman's Test and Tukey's test for No Additivity (B)

	Sum of Squares	df	Mean Square	F	Sig		
Between People	10657.605	249	42.802				
Within People	Between Items	17.203	26	.662	5.708	.000	
	Residual	Non additivity	.501 ^a	1	.501	4.321	.038
		Balance	749.926	6473	.116		

	Total	750.427	6474	.116		
Total		767.630	6500	.118		
Total		11425.235	6749	1.693		

Grand Mean = 3.94

a. Tukey's estimate of power to which observations must be raised to achieve additivity = .465.

After this Hotelling's T-Squared Test for inter class correlation coefficient was also found significant

Hotelling's T-Squared Test

Hotelling's T-Squared Test				
Hotelling's T-Squared	F	df1	df2	Sig

.000 ^a
a. Hotelling's T-Squared cannot be computed because of a singular covariance matrix.				

After Turkeys One degree of Freedom Test and Hotelling's T-Squared Test, Intraclass Correlation Coefficient was also calculated as follows:

Intraclass Correlation Coefficient

Intraclass Correlation Coefficient							
	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.932 ^a	.920	.943	369.254	249	6474	.000
Average Measures	.997 ^c	.997	.998	369.254	249	6474	.000
Two-way mixed effects model where people effects are random and measures effects are fixed.							
a. The estimator is the same, whether the interaction effect is present or not.							
b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.							
c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.							

Since $p\text{-value} > \alpha$ (or $F < F_{crit}$), we can't reject the null hypothesis, and conclude **there is no significant difference between the mean vectors for the simple measures and average measures.**

Test for Normality

One-Sample Kolmogorov-Smirnov

Test: The Kolmogorov-Smirnov test can be improved to serve as a goodness of fit test. In the special case of testing for normality of the distribution, samples are reliable and associated with a standard normal distribution. This is corresponding to setting the mean and variance of the reference distribution equal to the sample estimates, and it is known that using these to define the specific reference distribution changes the null distribution of the test statistic: Various studies have found that, even in this corrected form, the test is less influential for testing normality than the Shapiro-Wilk test or Anderson-Darling test. The result of one-sample K-S Test was found to be .000, i.e., significant, implying that although convenience sampling was adopted as a method of sampling, but the dataset followed normal distribution.

Section-A: Analysis Relating to Demographic Profile of the Respondents Age of the Respondents

The age of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Age of the Respondents					
		Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
Valid	21-25 yrs	51	20.4	20.4	20.4
	26-30 yrs	65	26.0	26.0	46.4
	31-35 yrs	47	18.8	18.8	65.2
	>35 yrs	87	34.8	34.8	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 34.80% of the respondents belong to

an age group of “Grater than 35 years”, followed by 26% of the respondents whose age lies between “26-30 years” and only 20.4% of the respondents falling the age group of “21-25 years”. This indicates that **majority of the respondents are belongs to the age group of >35 years, i.e. young but senior groups of employees or professionals.**

Gender of the Respondents

The Gender of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Gender of the Respondents					
		Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
Valid	Male	168	67.2	67.2	67.2
	Female	82	32.8	32.8	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 67.2% of the respondents are males, followed by 32.8% of the respondents who are females. This indicates that **majority of the respondents are males.**

Marital Status of the Respondents

The Marital Status of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Marital Status of the Respondents					
		Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
Valid	Single	70	28.0	28.0	28.0
	Married	58	23.2	23.2	51.2
	Divorcee	53	21.2	21.2	72.4
	Others	69	27.6	27.6	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 28% of the respondents are single, followed by 23.2% of the respondents who are married, 21.2% of the respondents who are divorcee and 27.6% of the respondents who belong to other categories. This indicates that **majority of the respondents are either single or married.**

Educational Qualification of the Respondents

The Educational Qualification of the respondents, collected from the primary data survey with the help of a structured

questionnaire, is being presented through the following table:

Educational Qualification of the Respondents					
		Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
Valid	Bachelor	116	46.4	46.4	46.4
	Masters	75	30.0	30.0	76.4
	Ph.D.	59	23.6	23.6	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 46.4% of the respondents are having Bachelor’s Degree, followed by 30% of the respondents having Masters’ Degree and 23.6% of the respondents having Ph.D. Degree. This indicates that **majority of the respondents are having Bachelor’s Degree and having less chance of completion of courses relating to Accounting Ethics or Business Ethics.**

Section-B: Analysis Relating to Research Specific Questions

Years of Experience of the Respondents

The Years of Experience of the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Years of Experience of the Respondents					
		Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
Valid	0-2 yrs	107	42.8	42.8	42.8
	3-8 yrs	75	30.0	30.0	72.8
	> 8 yrs	68	27.2	27.2	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 42.8% of the respondents are having work experience of 0-2 years, followed by 30% of the respondents having work experience of 3-8 years and 27.2% of the respondents having experience of more than 8 years. This indicates that **majority of the respondents are having less work experience and less chance of practising Accounting Ethics or Business Ethics in their work life.**

Whether you received Accounting Ethics Education at University Level

The answer to question whether they received accounting ethics education at the University Level, as given the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Whether you received Accounting Ethics Education at University Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	170	68.0	68.0	68.0
	No	80	32.0	32.0	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 68% of the respondents received Accounting Ethics Education at University Level, followed by 32% of the respondents who didn't receive this education at all. This indicates that **majority of the respondents received Accounting Ethics Education at University Level.**

Whether you received Accounting Ethics Education at Corporate Level

The answer to question whether they received accounting ethics education at the Corporate Level, as given the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Whether you received Accounting Ethics Education at Corporate Level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	162	64.8	64.8	64.8
	No	88	35.2	35.2	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 64.8% of the respondents received Accounting Ethics Education at Corporate Level, followed by 35.2% of the respondents who didn't receive this education at all. This indicates that **majority of the respondents received Accounting Ethics Education at Corporate Level.**

Do you think Ethics Education is important to the Accounting Profession

The answer to question whether they think Ethics Education to be important to the Accounting Profession, as given the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Do you think Ethics Education is important to the Accounting Profession					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	198	79.2	79.2	39.2
	No	52	20.8	20.8	60.8
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 79.2% of the respondents think that Ethics Education is important to the Accounting Profession, followed by 20.8% of the respondents who don't think so. This indicates that **majority of the respondents think that Ethics Education is important in Accounting Profession.**

Which of the following courses do you recommend to the next generation?

The answer to question which of the following courses do you recommend to the next generation, as given the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Which of the following courses do you recommend to the next generation?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Auditing	152	60.8	60.8	60.8
	Tax Accounting	98	39.2	39.2	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 60.8% of the respondents recommend Auditing Courses for the next generation, whereas 39.2% of the respondents recommend Tax Accounting courses. This indicates that **majority of the respondents recommend Auditing Courses for the next generation.** **Did the University courses include Ethics Awareness materials?**

The answer to question did the university courses include ethics awareness materials, as given the respondents, collected from the primary data survey with the help of a structured questionnaire, is being presented through the following table:

Did the University courses include Ethics Awareness materials?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	155	62.0	62.0	62.0
	No	95	38.0	38.0	100.0
	Total	250	100.0	100.0	

From the above table and exhibit, we see that 62% of the respondents opined that the university courses include Ethics Awareness materials, whereas 38% of the respondents

differed. This indicates that **majority of the respondents opined that the university courses include Ethics Awareness Materials.**

Principal Component Analysis for Exploratory Factor Analysis

Principal Component Analysis (PCA) is a method of reducing large number of variables into smaller number of factors and at the same time preserving most of the statistical information. In order to carry out Principal Component Analysis to identify the factors which have effect on practicing accountant’s perception on ethics in accounting practices the **twenty eight (28) variables are extracted into two (2) exploratory factors** which explain **97.524% of the total variance.**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	26.260	93.784	93.784	26.260	93.784	93.784	16.678	59.563
2	1.047	3.740	97.524	1.047	3.740	97.524	10.629	37.961	97.524
3	.349	1.246	98.770						
4	.152	.542	99.312						
5	.089	.318	99.630						
6	.041	.147	99.777						
7	.025	.090	99.867						
8	.016	.059	99.926						
9	.010	.034	99.960						
10	.006	.021	99.982						
11	.003	.010	99.991						
12	.001	.004	99.995						
13	.001	.003	99.998						
14	.001	.002	100.000						
15	4.970E-15	1.775E-14	100.000						
16	2.339E-15	8.352E-15	100.000						
17	2.360E-16	8.428E-16	100.000						
18	2.257E-16	8.060E-16	100.000						
19	2.243E-16	8.011E-16	100.000						
20	2.231E-16	7.966E-16	100.000						
21	2.219E-16	7.926E-16	100.000						
22	2.214E-16	7.907E-16	100.000						
23	2.157E-16	7.705E-16	100.000						
24	1.834E-16	6.551E-16	100.000						
25	1.151E-16	4.112E-16	100.000						
26	3.701E-32	1.322E-31	100.000						
27	-2.210E-16	-7.892E-16	100.000						
28	-8.480E-16	-3.029E-15	100.000						

Extraction Method: Principal Component Analysis.

The multiple regression equation for this variable “Integrity & Training” is greater than 1 and is

$$\beta_1 = 0.859X_1 + 0.859X_2 + 0.850X_3 + 0.845X_4 + 0.845X_5 + 0.845X_6 + 0.845X_7 + 0.845X_8 + 0.845X_9 + 0.845X_{10} + 0.845X_{11} + 0.845X_{12} + 0.843X_{13} + 0.843X_{14} + 0.841X_{15} + 0.834X_{16} + 0.822X_{17} + 0.814X_{18} + 0.802X_{19} + 0.796X_{20} + 0.795X_{21} \dots\dots\dots (i)$$

The second exploratory factor with three variables is named as “Ethical Dilemma”. The multiple regression equation for this variable “Ethical Dilemma” is greater than 1 and is:

$$\beta_2 = 0.865X_{22} + 0.864X_{23} + 0.864X_{24} + 0.864X_{25} + 0.853X_{26} + 0.750X_{27} + 0.750X_{28} \dots\dots\dots (ii)$$

Conclusion

The study reveals that the teachers and practicing accountants of North 24 parganas should maintain ethics in their respective work, highlighting various demographic, academic and perceptual factors. Firstly, Majority of the respondents belong to the age group of >35 years, i.e. young but senior groups of employees or professionals. On the contrary it indicates that 65.2% of the respondents belong in the age group of 21 years to 35 years. Secondly, we see that 46.4% of the respondents are having Bachelor’s Degree, followed by 30% of the respondents having Masters’ Degree and 23.6% of the respondents having Ph.D. Degree. This indicates that majority of the respondents are having Bachelor’s Degree and having less chance of completion of courses relating to Accounting Ethics or Business Ethics. Thirdly, we see that 42.8% of the respondents are having work experience of 0-2 years, followed by 30% of the respondents having work experience of 3-8 years and 27.2% of the respondents having experience of more than 8 years. This indicates that majority of the respondents are having less work experience and less chance of practising Accounting Ethics or Business Ethics in their work life. Fourthly, we see that 68% of the respondents received Accounting Ethics Education at University Level, followed by 32% of the respondents who didn’t receive this education at all. This indicates that majority of the respondents received Accounting Ethics Education at University Level. Fifthly, we see

that 64.8% of the respondents received Accounting Ethics Education at Corporate Level, followed by 35.2% of the respondents who didn’t receive this education at all. This indicates that majority of the respondents received Accounting Ethics Education at Corporate Level. Sixthly, we see that 79.2% of the respondents think that Ethics Education is important to the Accounting Profession, followed by 20.8% of the respondents who don’t think so. This indicates that majority of the respondents think that Ethics Education is important in Accounting Profession.

We see that 60.8% of the respondents recommend Auditing Courses for the next generation, whereas 39.2% of the respondents recommend Tax Accounting courses. This indicates that majority of the respondents recommend Auditing Courses for the next generation. we see that 62% of the respondents opined that the university courses include Ethics Awareness materials, whereas 38% of the respondents differed. This indicates that majority of the respondents opined that the university courses include Ethics Awareness Materials.

Finally, Principal Component Analysis (PCA) is a method of reducing large number of variables into smaller number of factors and at the same time preserving most of the statistical information. In order to carry out Principal Component Analysis to identify the factors which have effect on practicing accountant’s perception on ethics in accounting practices the **twenty eight (28) variables are extracted into two (2) exploratory factors** which explain **97.524% of the total variance**. The Rotated Component matrix has been developed with Principal Component Analysis as extraction method and Varimax with Kaizer normalisation.