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Vindhyan Bloom

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This issue, Volume 14, Issue 4 (December 2025), reflects the journal's ongoing commitment to promoting rigorous research and intellectual inquiry. All manuscripts published in Vindhyan Bloom undergo a refereed peer review process, ensuring originality, relevance, and academic integrity. The printed copy of this issue is intended for authors' academic records, institutional reference, and subscription purposes.

The journal publishes theoretical, empirical, and experimental research papers, case studies, review articles, and conceptual works. Contributions employing diverse research methodologies—such as statistical analysis, case study methods, field research, literature reviews, and policy analysis—are encouraged.

Vindhyan Bloom welcomes research papers covering a wide range of topics related to strategic management, entrepreneurship, innovation, human resource management, finance, marketing, accounting, operations management, information technology, organizational behavior, and business analytics. In the area of economics, the journal invites studies in micro and macro economics, managerial and financial economics, public finance, econometrics, development economics, environmental and green economics, fiscal and monetary policies, and other contemporary economic issues.

The journal also includes studies on organizational, managerial, and individual decision-making, examined from both normative and descriptive perspectives. Through this publication, Vindhyan Bloom strives to encourage academic excellence, interdisciplinary research, and meaningful scholarly contributions.

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Manuscript Information	Reviewed 20-12-2025	Accepted 23-12-2025	Published 30-12-2025	Paper No. VBRP-01

Post Covid-19 Best Practices to Improve Staff Safety in Service Enterprises: An Empirical Study of Hospitals in National Capital Territory (NCT), India

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The devastating effects of COVID-19 are apparent in various economies of states across the world. With the emergence of the novel Coronavirus, many sectors of the economy came to a standstill—disproportionately affecting the aviation, hotel, and healthcare industries in India. Many countries reopened, and businesses resumed normality in the post-Covid-19 era. Various countries and regions, especially in the west, have made great strides towards a vaccine and other therapeutically interventions. However, safety in the services industry is still an issue of concern in India.The aims of this study was therefore, to seek to answers to the following questions: have healthcare institutions in India reopened for overseas patients with staff safety as their most primary concern? What are the major threats to occupational safety in the Post pandemic period in hospitals? What are the areas for possible workforce safety enhancements by the hospitals? To examine possible Post-Covid safety practices, exploratory qualitative approach was utilised to evaluate the implementations of such practices that promote a healthy workplace in the service sector. Economies around the world are beginning to recover. The services sector, especially hospitals, has a common aim in the wake of the Post Covid pandemic, to achieve a healthy working environment.World-class medical facilities are critical, whether before or during, or after an outbreak. Nevertheless, a healthy working climate is essential for working professionals, which plays a significant role along with several factors impacting staff availability and productivity in the services sector. Preliminary estimates and evaluations indicate that there exist nuances in understanding and implementing safety measures in the post-Covid-19 recovery despite numerous calls to improve healthcare professionals' safety. The World Healthcare Organization, through periodical communications, insists on governments and healthcare leaders addressing persistent threats to health and safety workers and patients (World Health Organization [WHO], 2020).The pandemic was testament to the extent to which protecting healthcare workers was key to ensuring a functioning health system and society. The paper effectively and sufficiently addresses the three posed questions concerning whether healthcare institutions in India will be reopening for overseas patients with staff safety as their most primary concerns, the major threats to occupational safety in the Post

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pandemic period in hospitals, as well as the various areas for possible workforce safety enhancements by the hospitals. Some of the discussed post-pandemic safety practices that ought to be enforced by the hospitals include fostering a safety culture that encourages the employees to follow the provided procedure in case of an injury or illness, the implementation of solid safety protocols, and the enhancement of various measures for patient management. Besides, there is also an elaboration of the essence of improving record-keeping, refining training and timelines for personnel, and incorporating safety-based Information Technology in the hospitals to improve workforce safety. Importantly, patient safety and outcome can be achieved by ensuring workforce safety because healthy and safe healthcare workers deliver better care to their patients. Furthermore, the significant need for ensuring staff safety is exhibited in the massive number of patients presenting in the various hospitals in Delhi.

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Battle of Telecom Titans: Jio vs Airtel – A Comprehensive Analysis

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Abstract: Over the recent years, the rapid evolution of information and communications technology has propelled the world telecom industry into a realm of prosperity. Consequently, the Indian telecom sector has emerged as one of the most rapidly expanding industries globally. The telecommunications sector, which includes all phone companies and internet service providers, is a subset of the larger field of information and communication technology. It is essential to the development of mobile communications and the information society. The primary aim of our research is to conduct a comparative analysis of customer satisfaction levels between 'Airtel' and'Jio', focusing on Indore and its neighboring regions. The study aims to pinpoint the various factors influencing customer satisfaction in these areas. Notably, our findings reveal that there is no significant disparity in the factors impacting customer satisfaction levels between 'Airtel' and Reliance Jio. It is evident from the study that customers exhibit varying levels of satisfaction with Jio and 'Airtel' across different variables. The results underscore Jio's appeal as a more cost-effective option, with customers expressing contentment toward the diverse initiatives and promotions offered by the company. Particularly, customers appreciate the competitive local call rates provided by Jio. Conversely, 'Airtel' garners higher levels of customer satisfaction in areas such as superior network coverage, internet speed, and voice quality.

Introduction

Life appears to depend more and more on telecommunications goods and services in the modern day. The worldwide telecom industry, which includes a number of industries such long-distance carriers, wireless communication, domestic telecom services, communications equipment, processing systems, and international telecom services, is anticipated to increase significantly over the next few years. Because of the quick advancements and inventions, this industry is always changing. The impending emphasis on 5G rollout and testing will be crucial. Network densification and small cell use will provide hurdles for carriers as they improve their networks and offer more services to consumers. Enhancing fiber infrastructure and boosting range efficiency will also be major goals for carriers. The worldwide telecommunications industry is expanding due to a number of causes, such as sophisticated technology, fierce rivalry, and large expenditures in cutting-edge technologies like satellite and wireless communication. Affordable services, new services like e-agriculture and education, and the need for high-speed internet are

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other factors driving market growth. On the other hand, the high price of value-added services may prevent the market from expanding. Moreover, security management is difficult. Storage area networks, storage solutions, storage networking services, entry-level servers, corporate networking services, 3G services, and telephony are just a few of the services that leading telecom firms provide. The global internet user base is growing at a fast pace, which is driving the telecoms industry's need for internet-based services. Significant changes have occurred in the Indian telecom industry, which now ranks second globally in terms of market size, after China. The Indian mobile industry is expanding quickly and is anticipated to contribute significantly to the country's GDP, according to a research released by the GSM Association (GSMA) in partnership with the Boston Consulting Group (BCG). India is the world's fourth-largest app market. Since consumer satisfaction is a complicated and ethereal term, academics cannot agree on it. Depending on a number of psychological and physical elements that affect satisfaction behaviors like return and referral rates, the degree of satisfaction varies from person to person, product to product, or service to service. Customers' other alternatives for comparison may also have an impact on their level of satisfaction. Various viewpoints have been used by researchers to study consumer happiness. Customer satisfaction or dissatisfaction, according to Rust and Oliver (1994), is a cognitive or emotive reaction brought on by one or more service interactions. The kind of reaction (cognitive or emotive), the answer's focal point, and the evaluation's timeliness are the three basic elements of customer pleasure, according to Giese and Cote (2000). The literature does not, however, provide a precise definition of the difference between quality and satisfaction. Service quality is an overall assessment of a company's service delivery system, while satisfaction is a post-consumption experience that contrasts perceived quality with desired quality. Different academics have taken different stances on consumer satisfaction. consumer satisfaction is defined by Levesque and McDougall (1996) as the general sentiment that a consumer has toward a service provider. According to Mano and Oliver (1993), contentment is an assessment made after consumption of the product based on its performance throughout the hedonic continuum. By comparing perceived service performance with pre-buy expectations over time, Fornell (1992) redefines satisfaction as an overall evaluation drawn from the full purchase and spending experience.

Literature Review

(Leelakulthanit and Hongcharn, 2011) interviewed 400 Thai mobile phone customers to investigate the elements affecting customer satisfaction. According to their research, the main factors influencing consumer satisfaction are corporate image, promotional value, and the quality of in-store customer care. The study, which was presented at the International Conference on Ethics and Integrity in Management and Legal Practices at K. R. Mangalam University in Haryana, India, on February 8–9, 2019, was published in Volume 9, Special Issue 3, May 2019. The International Journal of Research in Engineering, IT, and Social Science, ISSN 2250-0588, Page 11. Source: http://indusedu.org.

A research by (Alom et al., 2010) included 60 Bangladeshi university students who were frequent cellphone users. The study's objective was to classify the main factors affecting the choice of mobile service providers. The study's conclusions showed that the two main elements influencing Bangladeshi customers' choices of mobile service providers were perceived call rate and brand image.

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With a sample size of 146 Pakistani cellular customers, (Sadia et al., 2011) investigated customer loyalty in the country's telecom industry. The results of this study indicate that trust, service quality, employee dedication, and the expenses related to changing service providers are the main determinants of consumer loyalty.

199 post-paid mobile users in a major Indian city were interviewed as part of a research on consumer satisfaction with Indian mobile services (Balaji, 2012). Using the American consumer Satisfaction Index (ACSI) methodology, the study sought to examine the causal links between consumer expectations, quality, value, satisfaction, and loyalty. According to the investigation's results, consumer pleasure is greatly influenced by perceived quality, which in turn fosters trust, price tolerance, and customer loyalty.

A research by (Boohene& Agyapong, 2011) included 460 Vodafone Telecom Company customers in Ghana. The research found that although service quality shows a substantial and positive link with loyalty, client happiness does not always equate to loyalty. Furthermore, the results showed that service quality is intrinsically linked to customer pleasure. When customers are pleased with the service provider and the services they get, they have a positive perception of the quality of the services.

An analysis of the causes and effects of customer satisfaction in Bahrain's mobile telecom sector was carried out by (Almossawi, 2012). This analysis illuminates the critical nature and implications of customer satisfaction within the fiercely competitive telecom landscape of Bahrain. The research suggests that companies that excel in cultivating customer satisfaction, ensuring prolonged customer retention, and transforming clients into loyal patrons will secure a more advantageous competitive position. According to the study's findings, mobile consumers mostly changed providers because they were unpleased with their previous ones or were drawn to the new service provider's better deals, reputation, and brand image. The survey found that the most common reasons for switching were being enticed by a better deal, being "dissatisfied with the fees imposed by the previous provider," and the improved signal coverage of the new operator.

(Hossain & Jahan Such, 2013) carried out a research on the relationship between loyalty and customer satisfaction in Bangladesh's mobile telecommunications sector. The research delved into the correlation between customer satisfaction and loyalty toward various telecom service providers in the country. The results of the study revealed that factors such as communication quality, pricing strategies, value-added services, user convenience, and customer support all exhibit a positive association with customer loyalty.

Additionally, the study found no relationship between customer loyalty and sales promotions. In 2012, Achour, M., N.P.M. Said, and A. Boerhannueddin carried out a research on customer loyalty: The instance of Universiti Utara Malaysia mobile phone customers. This study explores the relationship between switching obstacles, customer loyalty, brand image, and service quality. Faculty and students at Universiti Utara Malaysia (UUM) who used mobile phones made up the study population.

Research Methodology

Objectives of Study

- To evaluate the degree of customer satisfaction prevailing in the telecommunications service provider.
- To ascertain the determinants impacting customer satisfaction of mobile service users.

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- To conduct a comparative analysis between the clientele of 'Airtel' and Jio in terms of their contentment across various aspects.
- To contrast the strategies of both corporations and determine the optimal strategies for each entity.

Research Design Sample Size: The current investigation comprised a cohort of 100 patrons. A randomized selection process was implemented among the clientele of telecommunication service

Sampling Method: Judgmental sampling has been utilized in this study.

Sampling Area: Indore and the nearby Indore region.

Data Collection: A Google Forms-administered questionnaire was used to gather data. A total of 100 questionnaires were dispersed at random across different categories, such as students, independent contractors, working professionals, and others. The respondents' privacy and confidentiality have been carefully protected.

Statistical Tools Used: SPSS 18 was used to conduct the analysis.

Table 1: Demographic Profile of Respondents

Demographic variable	options	Percent
Gender	male	42%
	female	52%
Age	12 to 22	45%
	22 to 26	42%
	above 26	13%
Occupation	student	76%
	self employed	4%
	professional	17%
	other	3%
income	0 - 10k	70%
	10k-20k	6%
	20-50k	13%
	above 50k	11%
which is your current telecom service provider company	Jio	61%
	'Airtel'	26%
	other	13%
what kind of mobile network do you use	CDME	
	2G/3G	
	4G	30%
	5G	70%
From how long you are availing the service of your current telecom service provider	less than 1 year	8%
	1-2 year	17%
	2-5 year	47%
	more than 5 year	28%
Your monthly expense spent for your telecom services	0-250	48%
	250-650	41%
	650-800	7%

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	above 800	4%
If you were allowed to retain your current phone number , than would you like to change your current service provider?	Yes	15%
	No	65%
	May be	20%
Would you recommend your telecom service provider to other ?	Yes	57%
	No	21%
	May be	22%
Are you using more than one sim at a time ?	Yes, of same provider	26%
	Yes, of different provider	7%
	No	57%

Table 2: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.848	14

Cronbach's alpha is a metric of internal consistency, indicating the degree of interrelatedness among a set of items. In the context of a specific respondent, it serves as an indicator of scale reliability. A "high" Cronbach's alpha value does not necessarily imply unidimensionality of the measure. In theory, Cronbach's alpha should yield a value between 0 and 1, but negative values may also occur. A negative value typically signals issues with the data, such as potential oversights in reversing item scores. As a general guideline, a Cronbach's alpha exceeding .70 is deemed acceptable, while values surpassing .80 and .90 are considered superior and optimal, respectively. In the case of this data, the Cronbach's alpha stands at .848, indicating a high level of reliability.

Factor analysis: Factor analysis is a statistical method utilized to discern underlying relationships among observed variables. Its objective is to elucidate the observed correlations among variables by attributing them to a reduced number of latent factors. Here is a succinct overview of the fundamental concepts:

1. Observed Variables:
- These are the quantifiable variables from which data has been gathered.

2. Latent Factors:
- Inferred factors that cannot be directly observed. These variables explain the shared variance among the measured variables.

3. **Factor Loadings:**
- These coefficients indicate the strength and direction of the relationship between each measured variable and the hidden factor.

4. **Communalities:**
Communalities in factor analysis reflect the portion of variance in each observed variable that is attributed to the common factor. A communality that approaches one indicates that a substantial fraction of the variable's variance is accounted for by the factor, signifying a commendable fit. In

contrast, diminished communalities point to a reduced explanatory capability.

5. **Eigenvalues:**

Eigenvalues play a pivotal role in factor analysis as they aid in determining the optimal number of factors to retain and offer valuable insights into the variance explained by each factor. This underscores the significance of eigenvalues in this analytical process:

- Number of Factors:
  - Eigenvalues indicate the amount of variance explained by each factor. In general, researchers often consider retaining eigenvalues close to 1 , The eigenvalues can be used to determine the optimal number of factors to extract.
- Scree Plot Interpretation:
  - Plotting the eigenvalues in a scree plot helps visualize the rate at which variance is explained by each factor. The "elbow" of the scree plot, where eigenvalues level off, is often used to decide on the number of factors to retain.
- Variance Explanation:
  - Eigenvalues provide a measure of how much of the total variance in the dataset is explained by each factor. Higher eigenvalues suggest that the corresponding factor captures a larger portion of the overall variability in the observed variables.
- Dimension Reduction:
  - Eigenvalues help in the dimensionality reduction of the dataset. Factors with low eigenvalues may not contribute significantly to explaining the variance and might be excluded, leading to a more parsimonious model.
- In summary, eigenvalues guide researchers in determining the appropriate number of factors to retain, aiding in the extraction of meaningful information from complex datasets in factor analysis.

6. Factor Rotation

- A step in the analysis process where the factors are rotated to simplify the interpretation and enhance the clarity of the factor structure.

7. Factor Extraction Methods

Actor extraction methodologies in factor analysis are mechanisms utilized to discern the latent factors from the observed variables. Two prevalent factor extraction methodologies include Principal Component Analysis (PCA) and Principal Axis Factoring (PAF). Below is a succinct overview of each method:

- **Principal Component Analysis (PCA)**

- Principal Component Analysis (PCA) is a sophisticated data-driven technique designed to capture the utmost variance present in the observed variables. It aims to pinpoint the factors that encapsulate the most significant overall variance within the dataset. Nonetheless, PCA lacks the ability to discern between shared and distinct variance, potentially leading to extracted factors that lack straightforward interpretability in relation to underlying constructs.

- **Principal Axis Factoring (PAF)**

- Principal Axis Factor analysis (PAF) is a model-driven methodology that emphasizes the extraction of factors responsible for the shared variance among observed variables while excluding idiosyncratic variance. In contrast to Principal Component Analysis (PCA), PAF distinguishes between common and unique variance, offering a more distinct portrayal of underlying constructs. PAF is often favored when the aim is to pinpoint factors that truly embody the latent constructs within the dataset.

The selection between Principal Component Analysis (PCA) and Parallel Analysis Factor (PAF) is contingent upon the objectives of the analysis and the underlying assumptions regarding the characteristics of the data. Researchers should consider the interpretability of

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factors, the distinction between common and unique variance, and theoretical considerations when selecting a factor extraction method It's important to note that after factor extraction, researchers often apply factor rotation methods to enhance the interpretability of the factors. Varimax and Promax are common rotation techniques used to simplify the factor structure and make it more meaningful.

. Scree Plot:
- A graphical tool used to determine the optimal number of factors by plotting the eigenvalues.

9. Kaiser-Meyer Olkin test

The Kaiser-Meyer-Olkin (KMO) test serves as a pivotal tool in factor analysis, gauging the adequacy of the sample for conducting the analysis. It scrutinizes the viability of the observed variables for factor analysis by assessing the extent of variance in the variables attributable to underlying factors.

Here's how the KMO test works:

- Calculation of KMO:
  - The Kaiser-Meyer-Olkin (KMO) statistic is determined for each individual variable as well as for the overarching dataset to evaluate the adequacy of the data for factor analysis.
  - KMO values span from 0 to 1, with elevated values indicating enhanced suitability for factor analysis. A KMO value nearing 1 indicates that the variables are exceptionally appropriate for factor analysis.

Interpretation:

- Rule of thumb interpretations of KMO values:

- 0.00 to 0.50: Unacceptable.
- 0.50 to 0.60: Marginally acceptable.
- 0.60 to 0.70: Mediocre.
- 0.70 to 0.80: Good.
- 0.80 to 0.90: Great.
- 0.90 and above: Superb.

- Decision-Making:

- The Kaiser-Meyer-Olkin (KMO) test serves as a crucial initial phase in conducting factor analysis. Typically, researchers proceed with factor analysis if the KMO value for the dataset or individual variables is sufficiently high, indicating the data's suitability for this analytical method. Conversely, a low KMO value may suggest that the dataset is ill-suited for factor analysis, prompting consideration of alternative techniques or data adjustments.

10. Bartlett's test of sphericity

The Bartlett's Test of Sphericity is a statistical measure utilized in factor analysis to evaluate whether the correlation matrix of observed variables significantly deviates from the identity matrix. Essentially, it aids in determining the presence of underlying relationships, characterized by patterns of correlation, among the variables that can be effectively represented by factors.

Here's how the Bartlett's Test works:

Null Hypothesis:

- The null hypothesis for Bartlett's Test posits that the observed variables are uncorrelated in the population, implying that the correlation matrix resembles an identity matrix.

- Calculation of Test Statistic:
  The test statistic conforms to a chi-square distribution, and its computation involves juxtaposing the observed correlation matrix with the identity matrix.
- Significance Level:
  The p-value linked with the chi-square statistic is utilized to ascertain the significance of the test. A diminutive p-value (commonly below a selected significance level, e.g., 0.05) results in the dismissal of the null hypothesis.
- Interpretation:
  If the p-value is low, it indicates that the observed variables are significantly correlated, surpassing what would occur by random chance, thereby

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supporting the notion that factor analysis may be appropriate.

- Decision-Making:
  Scholars frequently employ Bartlett's Test alongside additional diagnostic tools, such as the Kaiser-Meyer-Olkin (KMO) test, to ascertain whether it is appropriate to advance with factor analysis. The use of factor analysis is supported by a p-value that approaches significance, which shows that there are correlations between the variables.
- To sum up, Bartlett's Test of Sphericity is a crucial tool for assessing if factor analysis is appropriate for a given dataset. A noteworthy finding validates the study of underlying elements by providing proof that the variables are interrelated.

Procedure

We have taken the data for following variable (asking to rate according to question)-

1. I choose to stick with my present network provider because of the company's advertising.
2. My acquaintances or relatives influenced my decision to opt for my current network provider.
3. I select my current telecommunications provider arbitrarily.
4. I acquire information about the latest promotions and business endeavors offered by my current telecommunications provider through television advertisements, newspapers, magazines, billboards, Google ads, Facebook ads, and Instagram ads.
5. I'm pleased with the speech quality—that is, the amount of background noise or voice distortion—that my telecom provider offers.
6. I am pleased with the degree of my telecom service provider termination, whether it be total or partial.
7. My present telecoms service provider's network coverage is satisfactory to me.
8. I am satisfied with my present service provider's Internet speed.
9. My choice to stick with my existing network provider is influenced by the pricing plans that telecom companies provide.
10. "I am satisfied with the offer combination introduced by my current network provider."
11. I am pleased with the recharge price that my present telecom provider is offering.
12. makes use of Jio Saavn, Jio Cinema, Jio TV, Jio Fiber, Reliance Mart, and other JIO ecosystem services.
13. use a variety of 'Airtel' ecosystem services, including internet, xstream DTH, payment banks, and more.
14. All things considered, I am pleased with the telecom service provider I now use.

Initially we have taken all above factors in analysis and we got –

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.849
Bartlett's Test of Sphericity	Approx. Chi-Square	584.370
	df	91
	Sig.	.000

Communalities		
	Initial	Extraction
"The advertisement of the company influenced me to use my current network provider"	1.000	.662
My friends or familyinfluenced me to use my current network provider	1.000	.476
I choose my current network provider randomly	1.000	.108

“I am getting information about new offers and ventures offered by my current network provider from TV Advertisement ,newspapers, magazines, holdings, Google ads, Facebook ads, Instagram ads.”	1.000	.539
“I am satisfied with the voice quality (that is, the amount of voice distortion or background noise) provided by my network service provider.”	1.000	.775
“I am satisfied with the level of drop-out (either partial or complete) from my network service provider”	1.000	.707
“I am satisfied with the Network Coverage of my current service provider”	1.000	.700
“I am satisfied with the Internet speed provided by my current service provider”	1.000	.601
“The tariff plan of telecom providers influences me to use my current network provider.”	1.000	.517
“I am satisfied with the offer combination introduced by my current network provider.”	1.000	.734
“I am satisfied with the Recharge cost offered by my current network provider”	1.000	.701
Uses JIO ecosystem services like - Jio saavan,JioCinema, jio TV, Jio Fiber, Reliance Mart, etc.	1.000	.455
Uses ‘Airtel’ ecosystem services like, ‘Airtel’Payment Bank, ‘Airtel’xstream DTH, ‘Airtel’ broadband, etc.	1.000	.339
“overall I am satisfied with my current telecom service provider.”	1.000	.763
“Extraction Method: Principal Component Analysis”.		

Here if we look two factors namely “I choose my current network provider randomly” and “Uses ‘Airtel’ ecosystem services like , ‘Airtel’ payment banks, ‘Airtel’xstream DTH , ‘Airtel’ broadband, etc.” Have extracted communalities considerablyless than .5,which implies that there is an unexplained variance and factors might not adequately capture all aspectsof variable , hence not considering these two factors and reanalysing we get-

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.850
Bartlett's Test of Sphericity	Approx. Chi-Square	557.412
	df	66
	Sig.	.000

Communalities		
	Initial	Extraction
“The advertisement of the company influenced me to use my current network provider”	1.000	.699
“I choose my current network provider randomly”	1.000	.195
“I am getting information about new offers and ventures offered by my current network provider from TV Advertisement ,newspapers, magazines, holdings, Google ads, Facebook ads, Instagram ads.”	1.000	.551
“My network service provider's speech quality—that is, the degree of background noise or voice distortion—satisfies me.”	1.000	.766
“I am satisfied with the level of drop-out (either partial or complete) from my network service provider”	1.000	.691
“I am satisfied with the Network Coverage of my current service provider”	1.000	.711

"I am satisfied with the Internet speed provided by my current service provider"	1.000	.623
"The tariff plan of telecom providers influences me to use my current network provider."	1.000	.574
"I am satisfied with the offer combination introduced by my current network provider."	1.000	.814
"I am satisfied with the Recharge cost offered by my current network provider"	1.000	.733
"UsesJIO ecosystem services like - Jio saavan ,Jio cinema, jio TV, jiofiber, reliance mart , etc."	1.000	.575
"overall I am satisfied with my current telecom service provider."	1.000	.766
"Extraction Method: Principal Component Analysis".		

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	5.223	43.525	43.525	5.223	43.525	43.525	3.743	31.189	31.189
2	1.376	11.467	54.992	1.376	11.467	54.992	2.273	18.941	50.130
3	1.097	9.138	64.131	1.097	9.138	64.131	1.680	14.001	64.131
4	.946	7.882	72.013						
5	.758	6.319	78.331						
6	.665	5.541	83.872						
7	.541	4.505	88.377						
8	.438	3.651	92.028						
9	.289	2.408	94.436						
10	.280	2.330	96.766						
11	.211	1.758	98.525						
12	.177	1.475	100.000						
"Extraction Method: Principal Component Analysis".									

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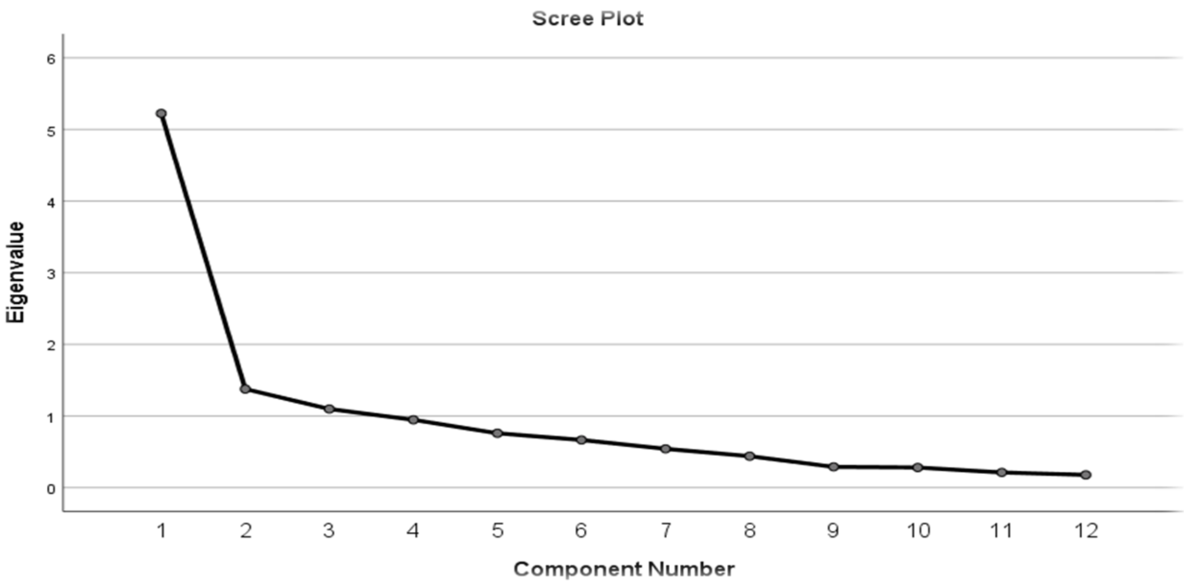

Rotated Component Matrix[a]			
	Component		
	1	2	3
“My network service provider's speech quality—that is, the degree of background noise or voice distortion—satisfies me.”	.838		
“overall I am satisfied with my current telecom service provider.”	.815		
“I am satisfied with the level of drop-out (either partial or complete) from my network service provider”	.799		
“I am satisfied with the Network Coverage of my current service provider”	.784		
“I am satisfied with the Internet speed provided by my current service provider”	.776		
“I am satisfied with the Recharge cost offered by my current network provider”		.812	
“I am satisfied with the offer combination introduced by my current network provider.”		.785	
“The tariff plan of telecom providers influences me to use my current network provider.”		.646	
“UsesJIO ecosystem services like - Jio saavan ,Jio cinema, jio TV, jiofiber , reliance mart , etc.”		.561	
“The advertisement of the company influenced me to use my current network provider”			.800
“I am getting information about new offers and ventures offered by my current network provider from TV Advertisement ,newspapers, magazines, holdings, Google ads, Facebook ads, Instagram ads.”			.662
“Extraction Method: Principal Component Analysis”. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

Hence we got components from factor analysis. we will name these component factors as

1. Quality services.
2. Economy
3. Advertisement

Factor -1

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Quality Services: The prosperity of the telecommunications industry hinges on strategic endeavors and viable investments. In a fiercely competitive market, service providers are expected to vie on both pricing strategies and the caliber of their services. It is imperative for these providers to not only fulfill but exceed the expectations and demands of consumers in terms of pricing and service excellence. The quality of services is contingent upon various factors, and consumers actively seek products that encompass a multitude of attributes that cater to their preferences. The Table below illustrates the variables associated with this pivotal factor.

Variables factor loading

“My network service provider's speech quality—that is, the degree of background noise or voice distortion—satisfies me.”	.838
“overall I am satisfied with my current telecom service provider.”	.815
“I am satisfied with the level of drop-out (either partial or complete) from my network service provider”	.799
“I am satisfied with the Network Coverage of my current service provider”	.784
“I am satisfied with the Internet speed provided by my current service provider”	.776

Factor-2

Economies : people love the services which are more pocket friendly to them , hence the economicalthe tariff plans ,comprehensive plans will lead them to use a particular service of a company .The variables included under this factor are shown in Table in order to analyze it.

Variables factor loading

“I am satisfied with the Recharge cost offered by my current network provider”	.812
“I am satisfied with the offer combination introduced by my current network provider.”	.785
“The tariff plan of telecom providers influences me to use my current network provider.”	.646
UsesJIO ecosystem services like - Jio saavan ,Jio cinema, jio TV, jiofiber , reliance mart , etc.	.561

Factor -3

Advertisement : Advertising helps telecom companies build and enhance brand awareness. Through various channels, such as television, radio, online platforms, and print media, telecom companies can reach a broad audience, ensuring that their brand is recognized. The variables included under this factor are shown in Table in order to analyze it.

Variables factor loading

“The advertisement of the company influenced me to use my current network provider”	.800
“I am getting information about new offers and ventures offered by my current network provider from TV Advertisement ,newspapers, magazines, holdings, Google ads, Facebook ads, Instagram ads.”	.662

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H0: There is no discernible difference between 'Airtel' and Reliance Jio in terms of the variables affecting customer happiness.

Based on a number of variables that somewhat affect customer happiness, the table compares 'Airtel' with Reliance Jio.
H0: The variables influencing 'Airtel' and Reliance Jio's customer satisfaction ratings do not differ significantly.

Table 3: Comparative Analysis of 'Airtel' and Jio

Variables	Network provider	Mean (standard deviation)	p-value	Remark
"The advertisement of the company influenced me to use my current network provider"	'Airtel'	2.346154 1.17481	0.317	No significant difference
	Reliance Jio	2.639344 1.4146		
"My friends or familyinfluenced me to use my current network provider"	'Airtel'	2.384615 1.416304	0.132	No significant difference
	Reliance Jio	2.868852 1.27116		
"I choose my current network provider randomly"	'Airtel'	2.846154 1.37819	0.0765	No significant difference
	Reliance Jio	2.278689 1.35562		
"I am getting information about new offers and ventures offered by my current network provider from TV Advertisement ,newspapers, magazines, holdings, Google ads, Facebook ads, Instagram	'Airtel'	2.961538 1.055417	0.2676	No significant difference
	Reliance Jio	2.655738 1.424608		

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ads."				
"I am satisfied with the offer combination introduced by my current network provider."	'Airtel'	3.038462 0.939753	0.8748	No significant difference
	Reliance Jio	3 1.251666		
"I am satisfied with the Recharge cost offered by my current network provider"	'Airtel'	2.807692 1.038462	0.727	No significant difference
	Reliance Jio	2.901639 1.374832		
"UsesJIO ecosystem services like - Jio saavan ,Jio cinema, jio TV, jiofiber , reliance mart , etc."	'Airtel'	1.923077 1.034894	0.00018	Significant difference exist
	Reliance Jio	2.967213 1.494068		
"Uses 'Airtel' ecosystem services like , 'Airtel' payment banks, 'Airtel'xstream DTH , 'Airtel' broadband, etc."	'Airtel'	2.807692 1.209553	0.0081	Significant difference exist
	Reliance Jio	2.016393 1.419998		
"overall I am satisfied with my current telecom service provider."	'Airtel'	3.461538 1.008837	0.2663	No significant difference
	Reliance Jio	3.180328 1.231641		

"My network serviceprovider's speechquality—that is, the degree of background noise or voice distortion—	'Airtel'	3.692308 1.16913	0.098	No significant difference
	Reliance Jio	3.213115		

satisfies me."		1.391818		
"I am satisfied with the level of drop-out (either partial or complete) from my network service provider"	'Airtel'	3.269231 0.942896	0.2841	No significant difference
	Jio	3 1.32916		
"I am satisfied with the Network Coverage of my current service provider"	'Airtel'	3.423077 1.115385	0.3617	No significant difference
	Reliance Jio	3.163934 1.416337		
"I am satisfied with the Internet speed provided by my current service provider"	'Airtel'	3.769231 1.338992	0.02	Significant difference exist
	Reliance Jio	3.032787 1.401989		
"The tariff plan of telecom providers influences me to use my current network provider."	'Airtel'	2.730769231 0.982840949	0.4651	No significant difference
	Reliance Jio	2.918032787 1.320291407		

There are fourteen variables in all in this table, and the results indicate that just three of them have a probability value of the t statistic below the five percent significance limit.

- Uses JIO ecosystem services like - Jio saavan , Jio cinema, jio TV, jio fiber , reliance Mart , etc.
- Uses 'Airtel' ecosystem services like , 'Airtel' payment banks, 'Airtel'xstream DTH , 'Airtel' broadband, etc.
- I am pleased with the level of Internet speed that my present service provider offers.
- Therefore, the null hypothesis, which states that there is no significant difference between the factors impacting 'Airtel' and Reliance Jio's satisfaction levels with respect to the aforementioned variables, cannot be sustained with a 95% confidence level. Thus, it may be concluded that 'Airtel' and Reliance Jio have

significantly different levels of client satisfaction.

Conclusion

From the data presented in the table, it is evident that while Reliance Jio holds greater popularity among consumers compared to 'Airtel', the latter garners higher customer satisfaction with its services. Analysis of the mean deviation reveals that Reliance Jio's advertisements possess a more profound impact than those of 'Airtel'. Furthermore, the tariff plans and service rates offered by Reliance Jio surpass those of 'Airtel', resulting in a more cost-effective local minute rate for Jio in comparison to 'Airtel'. This pricing strategy significantly contributes to the widespread appeal of Reliance Jio. Furthermore, feedback suggests that consumers are more satisfied with the ecosystem services that Reliance Jio has added than with 'Airtel'. However, 'Airtel' performs better than Reliance Jio in terms of internet speed, call quality, and network coverage. Reliance Jio is a more cost-effective option than 'Airtel' since its recharge packages work better than Airtel's.

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The Comeback of Campa Cola: A Study of Consumer Adaptation and Brand Switching

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Abstract: Campa Cola relaunched in India and this is significant as the players in the soft drink market of India have been dominated for years by strong players like Coca Cola, Pepsi and Thums Up. The interest and reactions across cities have increased due to the brand slowly coming back to Reliance Industries. Guntur, a developing city in Andhra Pradesh with an active consumer market, is one of the cities. The study examines the response of the customers in Guntur towards the relaunching of Campa Cola and study the determinant of brand switching in soft drink industry. Using brand loyalty, identity congruence, social effects and desire for variety as a base; the current study investigates various emotional and socio-psychological aspects affecting consumer choice. The data includes 150 respondents collected through questionnaire. The analysis shows that Campa Cola's comeback is initially exciting because of its novelty and patriotic allure but its long-term commercial success will depend primarily on the product quality and brand marketing and celebrity influence, within the community. The research helps us understand why people switch to different brands in developing countries. It also gives marketers insights into how to revive or reposition standard brands. According to the results, the customer behaviour is affected by price sensitivity, nostalgia and curiosity, enduring loyalty is mainly influenced by taste gratification, social impact and symbolic meanings related to identity.

Keywords: Campa Cola, Brand Switching, Consumer Adaptation, Brand Loyalty.

Introduction

Over the Years, the Indian soft drink industry has changed significantly due to changes in economic policy, globalization and consumer preference. Before the Indian economy was liberalised in the early 1990s, several domestic brands of beverages had flourished and one such iconic label of soft drink was Campa Cola. Campa cola which was very successful in the market is popularly known as The Great Indian Taste. Though, after liberalization, the entry of multi- national giants like Coca-Cola and Pepsi significantly reduced the market share of domestic brands, which ultimately led to the gradual vanishing of Campa Cola from the national map. Campa Cola made a comeback in 2023, having been purchased and relaunched by Reliance Consumer Products Ltd, a subsidiary of Reliance Retail. The strategic re- launch of Campa Cola was done when Indian consumers are showing an inclination towards products that resonate with them culturally and are desi. The relaunch is intended to leverage nostalgia for the pre-liberalisation era of India, aided by modern marketing instruments and competitive price points and of course, Reliance's vast retail distribution network to help reposition Pepsi. The rapidly urbanizing city of Guntur of Andhra Pradesh has been chosen as the study area considering the demographics, intensity of retail development and a wide range of social and economic categories. Because it includes conventional and modern consumption patterns, the city is best suited for studying consumer behaviour. Consumers at Guntur have shown inclination to buy beverages due to climatic condition, change in lifestyle, exposure to national brand and international brand. This study on Campa Cola focuses on the consumers of Guntur. Please see more details. We will also examine why consumers accept or reject the brand. The study characterizes how factors such as brand loyalty, identity matching, social influence, nostalgia and curiosity impact brand switching behaviour. The theory's attention expands larger conversations about consumer behaviour, brand recovery, quest in developing destination markets and how marketers do this.

Background of the Indian Soft Drink Industry

The evolution in the Indian beverage market is, in sum, a dynamic interplay of consumer preference, changes in economic policy, and branding strategy. Being highly divided, this market has been dominated by domestic players like Gold Spot, Thums Up, and Campa Cola in the cola category for quite a long time before the entry of global brands into the Indian market. All of these brands are creates a strong connection with Indian consumers because their marketing messages were being localized and deeply culturally relevant. When the Indian economy opened up in the 1990s, the market was exposed to MNCs coming in with standardized products, large advertising budgets, and solid supply chains. Coca-Cola and Pepsi went on a spree buying domestic brands and folding them into their international portfolios. Thums Up, though originally an Indian brand, was bought over by Coca-Cola, while Gold Spot vanished without a trace. As Indian consumers began getting a taste of global branding, they began forging powerful associations with these multinational brands, and the way the market worked started to change. These include factors such as increasing urbanization, rising disposable incomes, changing consumption habits, and aggressive marketing due to which the Indian beverage market is further on the rise today, valued in billions. While the multinational companies rule over the carbonated soft drink segment, there are some local brands such as Paper Boat, Bovonto, and Kalimark that maintain their regional strength. Campa Cola is re-launching at a time when interest in Indian-origin products has revived, as has digital and influencer-led marketing and fast-expanding distribution networks led by combination like Reliance. Its return mirrors the trend to revive legacy products and attract regretful consumers riding on national sentiment. Valued in billions, the Indian beverage market is still an expanding market on account of reasons like urbanization, increasing disposable incomes, changing consumption habits, and aggressive marketing. Multinational corporations still have their hold on the carbonated soft drink market, though local brands like Paper Boat, Bovonto, and Kalimark maintain their regional strongholds.

Literature Review

Research in consumer behavior identifies the four major causes of brand switching in beverages like taste satisfaction, price sensitivity, social influence, and emotional association. Nostalgia-based marketing

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depends on memories and emotional experiences to recover consumer interest in legacy brands. Taste remains the most robust predictor of repeated purchase. The research consistently shows that although novelty and promotional cues may induce trial consumption, a long-term loyalty is contingent upon sensory appeal and consistency of the product. Price sensitivity shapes consumer behavior, especially in developing markets, where affordability is an overwhelming force in purchasing decisions.

From the past years, identity congruence has emerged as an essential determinant. In recent years consumers are more likely to associate their brand preferences with cultural identity, national sentiments, and personal values. Consumption habits, in addition, are shaped by social influences comprising peers, family, and social media, especially among the youth. The comeback of Campa Cola does find an interesting intersection with these theoretical constructs: enjoying the benefit of nostalgia and identity appeal, it has to fight multinational brands on taste and pricing eventually.

Research Objectives

The present study aims to explore in detail the response of consumers in Guntur to the re- entry of Campa Cola and the factors that lead to brand switching in the soft drink market. The objectives of the study are as follows:

- To analyze consumer perceptions with regards to the re-launch of Campa Cola and understand emotions and attitudes associated with the return of the brand.
- To ascertain and assess various psychological, social, and economic determinants of brand switching in the beverage industry.
- To explore the role of nostalgia, national identity, and curiosity in motivating trial consumption for Campa Cola.
- To estimate if Campa Cola can retain consumer loyalty in the long run through taste, price, availability, and branding campaigns.
- The aim is to add theoretical perspectives on how legacy brands could be restart and repositioned in a contemporary competitive market.

Research Gap

Though there are various studies on consumer behaviour regarding the soft drink industry, few studies have focused on the revival of heritage brands in contemporary Indian markets.

Moreover, most of the available literature looks at either brand loyalty, price sensitivity, or taste preference separately without investigating how emotional triggers like nostalgia and national identity interact with functional determinants to shape consumer behavior. In addition, past research seldom takes into consideration market conditions in developing cities such as Guntur, which has both traditional and modern consumption patterns. Furthermore, there is a dearth of research on the re-entry of dormant brands into a highly competitive multinational-dominated market. Empirical data on the evaluation made by consumers in respect of such brands through revived branding strategies, modern distribution systems, and evolving identity-based preferences are lacking. This study fills this gap with an analysis of Campa Cola's comeback by combining emotional, functional, and socio- psychological determinants.

Methodology

A descriptive research methodology has been applied to examine the factors that influence consumer response towards Campa Cola's re-entry. Quantitative primary data has been collected by structured questionnaires. Overall 150 responses are collected from different sectors in Guntur, such as students, professionals, homemakers, and retail customers. Convenience sampling was considered because of the heterogeneous and easily accessible population.This survey contains sections related to demographic information, awareness levels, perception about the brand, factors affecting purchasing, and the reasons for brand switching. Item scales used were of the Likert scale type, measuring agreement or the influence level of taste, price, nostalgia, brand identity, and social motivation. Descriptive statistical methods have been employed to analyze patterns, identify dominant themes, and interpret behavioral insight.

Findings

The study discovered that Campa Cola's re-entry into the market filled everyone with curiosity, and a lot of respondents have positive or at least nostalgic associations with the brand. Younger people were more eager to taste the drink, since it was a novelty with a presence on social media; older consumers reported emotional connections based on memories of the brand's previous prominence.Price emerged as one of the most powerful drivers for trial purchases. Due to the competitive pricing and perceived value, most of the consumers who had been using established brands shifted temporarily to Campa Cola. Taste comeup as the single most important factor in deciding on repeat purchases. Several respondents liked the flavor profile, whereas many others believedthat the taste needed to improve a little more to match the strong fizz and intensity offered by rival brands like Thums Up.For the older consumers, the driving force was clearly going to be nostalgia, with Campa Cola reminding them of their youth. At the same time, pure nostalgia was not enough for the continuation of long-term consumption, since continued loyalty is greatly based on the consistency of taste and product availability. Social influence played a moderate role in trial consumption, especially for students who shared word-of-mouth recommendations within peer circles. A key driver was identity alignment, with a number of respondents stating that Campa Cola was preferred as an Indian product with involvement from Reliance, a domestic corporate leader.However, strong existing loyalties to established multinational brands created resistance to permanent switching for some consumers.

Discussion

This suggests that the process of consumer adaptation to the revival of Campa Cola is a multi-stage behavioral process initiated with emotional appeal and followed by functional evaluation. The initial interest created by nostalgia, affordability, and cultural identity was important in driving trial behavior. However, taste satisfaction became the final determinant of loyalty, reaffirming that product quality is paramount in competitive beverage markets.

Price sensitivity was a strong determinant of switching, reflecting general patterns of consumption in developing markets where affordability can override well-established preferences in the near term. However, a value-led trial has to be reinforced by adequate sensory experience for habits to be formed. Identity agreement helped Campa Cola gain significant acceptance and reflected the emerging consumption preference for Indian-origin brands. Its sustainability would depend upon consistent reinforcement through marketing, storytelling, and consumer engagement. The discussion also illustrates the strategic importance of distribution. This retail power of Reliance has ensured wide availability, thereby improving visibility and access to purchase—two very important CSFs for revived brands.

Future Scope of the Study

This study opens up further options of exploration. Later research can expand the sample size and geographical coverage to see whether the consumer's view point across rural, semi- urban, and metropolitan regions. Longitudinal studies may provide insight not only into how consumer attitude changes over time but also whether Campa Cola is able to sustain loyalty beyond initial novelty. Comparing Campa Cola to other regional brands will backdown deeper insights into the driving mechanisms of heritage brand success. Further research could investigate the conjoint effects of digital marketing, influencer endorsements, and celebrity branding on the adaptation process of consumers. An investigation on packaging innovation, health perceptions, and diversification into new flavors will also be useful in explaining the market strategy.

Conclusion

Campa Cola is an excellent example of the comeback of a heritage brand in the Indian soft drink market. Although the study indicates that emotional drivers such as nostalgia, curiosity, and cultural identity can lead to consumer trial behavior, satisfaction due to taste and perceived quality and reinforcement of the brand ensure long-term brand loyalty. Campa Cola relaunch has succeeded in striking a feeling among the consumers in Guntur, but continuous improvement and effective marketing strategies to maintain the availability of the product are called for to sustain the same momentum. The present research thus contributes to marketing scholarship on consumer adaptation patterns, the relative importance of functional and emotional determinants of brand switching, and the strategic potential for revival of legacy brands in contemporary markets. Thus, Campa Cola, backed by an appropriate strategy, has a strong potential to revive its brand identity as a favorite Indian soft drink brand in a global competitor-dominated market.

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How AI is Reshaping Retail Experiences in India

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Abstract: Artificial Intelligence (AI) is transforming India's retail sector by enabling hyper-personalization, optimizing supply chains, enhancing omnichannel experiences, and automating operations. This paper examines the key AI applications in Indian retail, their business impact, implementation challenges, and future trajectory. Using secondary research, industry cases, and market insights, the study highlights how AI-driven technologies—such as machine learning, computer vision, NLP, and generative AI—are reshaping customer journeys, merchandising, pricing, fulfilment, and fraud management. The paper concludes with a roadmap for retailers to adopt AI responsibly, focusing on data readiness, ethical governance, and measurable value creation.

Keywords: Artificial Intelligence, Indian retail, personalization, omnichannel, computer vision, NLP, generative AI, supply chain optimization, retail analytics, customer experience.

Introduction

India's retail landscape is experiencing rapid digitization driven by widespread smartphone adoption, affordable data plans, UPI-based digital payments, and the rise of e-commerce and quick-commerce platforms. Traditional business existing with modern trade and D2C brands, creating a heterogeneous ecosystem with varying digital maturity. In this context, AI has emerged as a pivotal capability that enhances customer experience, operational efficiency, and decision-making. Indian retailers—from marketplaces to grocery chains—are leveraging AI to personalize offers, optimize assortments, automate customer service, and streamline logistics. This paper explores how AI reshapes retail experiences in India, evaluates key use cases, and identifies best practices for scalable, ethical deployment.

Literature Review

Prior studies and industry reports indicate that AI delivers value through predictive analytics, recommendation systems, computer vision, and conversational interfaces. Global retailers report uplift in conversion, basket size, and inventory turns; Indian players similarly report improvements in customer engagement and operational KPIs. Academic work emphasizes the importance of high-quality data, robust feature engineering, and responsible AI governance. Recent literature also explores generative AI's promise in content creation, catalogue enrichment, and marketing copy, as well as its risks related to bias, hallucination, and privacy.

Methodology

This paper adopts a descriptive and analytical approach using secondary data from industry publications, company case studies, market analyses, and regulatory documents. It synthesizes qualitative insights with quantitative benchmarks

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commonly reported by Indian retailers and technology vendors. The analysis is structured around customer-facing and back-end functions to map AI's impact across the retail value chain.

AI Use-Cases Reshaping Retail Experiences in India

1. Customer Experience and Personalization

- Recommendation Engines: Machine learning models analyse browsing, purchase history, and contextual signals to recommend products, bundles, and content. Retailers observe increased click-through rates and average order value when personalization is real-time and multi-touch point.
- Dynamic Pricing and Offers: AI models optimize discounts by segment and channel, balancing margin and conversion. UPI-based payment data and loyalty profiles enrich segmentation.
- Search and Discovery: NLP-powered semantic search improves relevance, handling multilingual queries common in India (Hindi-English code-mix). Visual search aids discovery in fashion and home categories.
- Conversational Commerce: Chatbots and voice assistants in English and Indian languages assist with product queries, returns, and order tracking, reducing call centre load and improving response times.

2. Operations and Supply Chain

- Demand Forecasting: Time-series and causal models predict demand by SKU and store, incorporating regional festivals, weather, and influencer-driven spikes.
- Inventory Optimization: AI balances stock allocation across stores and dark warehouses, reducing stockouts and aged inventory.
- Fulfilment and Last-Mile: Route optimization and delivery slot prediction improve reliability for hyperlocal and quick-commerce deliveries.
- Computer Vision in Stores and Warehouses: Shelf monitoring, planogram compliance, and automated checkout pilots reduce shrinkage and improve on-shelf availability.

3. Merchandising and Content

- Catalogue Management: Vision models perform image quality checks, attribute extraction, and automated tagging, accelerating on boarding of seller catalogues.
- Generative AI for Content: Automated product descriptions, size guides, and campaign copy increase speed-to-market while maintaining brand tone.

4. Risk, Compliance, and Customer Trust

- Fraud Detection: Anomaly detection in payments, returns, and seller onboarding mitigates risk, especially in cash-on-delivery contexts.
- Privacy and Consent Management: AI-assisted data governance ensures consent tracking and compliance with India's DPDP Act.
- Responsible AI: Bias testing and human-in-the-loop review safeguard fairness in recommendations and pricing.

5. Infrastructure & costs for smaller retailers

- Cloud, edge compute, and high-quality connectivity are needed for many AI systems; smaller stores and medium retailers may lack resources to adopt. Without affordable solutions and ecosystem support, adoption will remain concentrated among large firms.

- Sector adoption levels: Adoption in retail and FMCG is notable though uneven; institutional reports show retail among sectors with significant Al investments, while smaller merchants lag.

6. Hyper-personalization & privacy systems

Operational gains reported in case studies: Retail case studies in India show measurable improvements in stock outs, personalization conversion lifts, and logistics efficiency when AI is integrated end-to-end. Al-driven recommended systems (collaborative filtering, deep learning) personalize product discovery across apps and websites, increasing conversion rates and average order value. Indian e-commerce platforms (Flipkart, Myntra, Tata Neu) and D2C brands use personalization for curate homepages, push notifications, and tailored promotions. Several studies in the Indian context find AI personalization increases purchase likelihood and retention. Retailers must integrate fragmented datasets (POS, CRM, third-party data). Data quality and governance gaps reduce model accuracy. Privacy and consent compliance (personal data protection frameworks) is nascent in India; mishandling can erode trust.

Table1 : AI Use-Cases Across the Retail Value Chain

FUNCTIONS	KEY AI TECHNIQUES	TYPICAL OUTCOMES	INDIA CONTEXT NOTES
Customer Experience	Recommendation engines (collaborative filtering, deep learning), NLP search, visual search, conversational AI.	Higher CTR, AOV, retention; faster query resolution.	Hindi-English code-mix, regional language support, high price sensitivity.
Operations & Supply Chain	Time-series and causal forecasting, inventory optimization, route optimization, computer vision	Lower stockouts, better inventory turns, more reliable delivery SLAs	Festival spikes, weather variability, hyperlocal logistics
Merchandising & Content	Image quality checks, attribute extraction, automated tagging, generative copy	Faster catalogue onboarding, consistent brand messaging	Seller onboarding at scale, diverse product imagery
Risk & Trust	Anomaly detection, consent tracking, bias audits, human-in-the-loop.	Fraud reduction, compliance with DPDP, fair recommendations.	COD risks, evolving regulatory expectations.
MSME Enablement	Lightweight SaaS, edge shared data platforms.	Affordable adoption, gradual capability build-up.	| Connectivity constraints, cost sensitivity.

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Case Illustrations (India Context)

- Grocery and Quick-Commerce: AI-driven slot prediction and substitution recommendations enhance delivery reliability and basket completion.
- Fashion E-commerce: Computer vision supports size recommendations and fit prediction, reducing returns; recommendation systems boost cross-sell.
- reducing returns; recommendation systems boost cross-sell.
- Omnichannel Electronics: AI-powered assisted selling in stores integrates online reviews and specs, shortening decision cycles.
- Kirana Enablement Platforms: AI helps dynamic assortment and credit risk assessment for reducing returns; recommendation systems boost cross-sell.
- Omnichannel Electronics: AI-powered assisted selling in stores integrates online reviews and
- reducing returns; recommendation systems boost cross-sell.
- Omnichannel Electronics: AI-powered assisted selling in stores integrates online reviews and specs, shortening decision cycles.
- Kirana Enablement Platforms: AI helps dynamic assortment and credit risk assessment for micro-retailers.

Impact Measurement and KPIs

- Retailers evaluate AI initiatives using clear KPIs: conversion rate uplift, average order value, repeat purchase rate, customer lifetime value, stockout rate, inventory turns, delivery SLA adherence, and cost-to-serve. A/B testing and causal inference frameworks isolate AI impact from confounders. Value tracking must include customer satisfaction and NPS to ensure experience quality.
- Market & macro benefits: National-level analyses indicate AI could add substantial GDP value if adoption accelerates; sector reports show significant projected market growth for AI solutions in India.

Implementation Considerations

- Data Readiness: Unified customer and product data platforms, robust data quality pipelines, and consent-aware data collection.
- Model Strategy: Start with high-impact, low-variance use cases (recommendations, forecasting) before advanced generative AI. Choose hybrid approaches combining heuristics and ML to ensure stability.
- Platform and MLOPs: Scalable cloud or hybrid infrastructure, feature stores, monitoring for drift, and rapid iteration cycles.
- Talent and Change Management: Cross-functional squads of data scientists, engineers, product managers, and retail domain experts; training store staff for AI-enabled workflows.
- Localization: Support for Indian languages, regional preferences, price sensitivity, and festival-driven seasonality.

Risks and Ethical Considerations

- Bias and Fairness: Ensure recommendations and pricing are equitable across demographics and regions.
- Transparency: Communicate personalization and pricing logic at a high level to build trust.
- Privacy: Strict adherence to DPDP Act, minimal data collection, and secure processing.
- Reliability: Guardrails against hallucinations in generative AI;

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human oversight for critical decision.

Table 2 :Responsible AI Controls For Indian Retail

Risk Area	Control	Practical Step	Outcome
Bias & Fairness	Bias testing and mitigation.	Monitor recommendation parity across regions and demographics.	More equitable experiences.
Privacy	Consent-aware data pipelines.	Enforce DPDP-compliant consent capture and data minimization.	Stronger customer trust.
Reliability	Guardrails for generative AI.	Use human review for critical content and pricing copy.	Lower hallucination risk.
Transparency	Customer communication.	Provide high-level explanations of personalization and opt-out options.	Greater acceptance.

Future Outlook

AI in Indian retail will deepen with multimodal models that combine text, image, voice, and behavioural signals. Edge AI in stores will enable real-time shelf analytics and smart checkout. Generative AI will personalize marketing at scale and co-create with customers. Integration with ONDC and interoperable commerce networks will expand AI's role in discovery and logistics. As regulation matures, privacy-preserving techniques—like federated learning—will help balance personalization and compliance.

Conclusion

AI is reshaping retail experiences in India by making them more personalized, convenient, and efficient. Retailers that prioritize data foundations, responsible AI governance, and measurable outcomes can unlock substantial value while maintaining customer trust. The path forward lies in pragmatic use-case selection, iterative deployment, and localization to India's diverse market. As AI capabilities evolve, retailers that embed AI into their core operations and customer journeys will gain sustainable competitive advantage.AI is actively reshaping retail experiences in India across personalization, operations, and customer engagement. Country's growing Al talent pool and market interest create opportunities to realize significant economic value. However, Al amplifies inclusive retail modernization or concentrates gains among a few large players.

References

Based on synthesis of industry reports, Adoption challenges (scale & value), India Retail sector articles AI use-cases in Indian retail (inventory, logistics, personalization), Invest Up (Al adoption report) sector adoption statistics (FMCG & retail),Economic Times - NITI Aayog estimate on AI's potential GDP contribution ,Academic literature on AI in retail, Indian regulatory documents (DPDP Act), and publicly available case studies.

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Study of Indian Retail Markets Challenges and Adaption of E-Commerce Platforms in 2025

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Abstract: This paper examines the increasing challenges faced by India's traditional local retail markets, particularly kirana stores, due to the rapid adoption and expansion of e-commerce and quick-commerce platforms in 2025. Using a literature review, secondary data, industry reports, and case-based analysis and Indian government-commerce rules and policies, the study identifies key issues such as revenue decline, shrinking profit margins, cash-flow disruptions, and unsustainable competitive pressures. The research also explores and mentioned the various modern adaptive strategies undertaken by kirana stores along with policy recommendations to enable more equitable co-existence. Finding and telling that e-commerce provides unparalleled convenience to consumers, its accelerated the growth poses an existential there at to small retailer sun less structural reforms, digital empowerment, and collaborative business models are adopted.

Introduction

Local retail shops, commonly known as kirana stores, have historically formed the backbone of India's FMC daily-consumption market, supplying essential goods such as groceries, dairy products, and household items. However, the rapid emergence of e-commerce and especially quick-commerce platforms such as Blinkit, Zepto, and Swiggy Instamart has drastically transformed consumer buying patterns. These platforms promise ultra-fast delivery, competitive pricing, and wide product availability, attracting significant portion of urban and semi-urban consumers. Although beneficial for customers seeking convenience, the rise of these platforms has created substantial stress for traditional retailers. The central problem addressed in this study is the set of challenges local kirana stores in India face in 2025 due to the rising dominance of e-commerce ecosystems. These challenges affect their sustainability, profitability, cash flow stability, and overall role within the retail economy. The objective of the research include identifying the nature of these challenges, examining the adaptation strategies adopted by local markets, evaluating consumer shifts toward e- commerce and quick-commerce, and identifying the associated risks to the unorganized retail sector.

Literature Review and Industry Background

The rise of quick-commerce has been one of the most disruptive developments in India's retail landscape. These platforms operate through "dark stores" or micro-warehouses located in residential areas and promise delivery within 15–20minutes.Reportsindicate that nearly 83% of consumers have shifted a portion of their spending away from kirana Stores to quick-commerce channels, and around17%

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have stopped purchasing from kiranas altogether. The quick-commerce industry, backed by heavy investment and aggressive growth strategies, continues to expand, intensifying the competition faced by traditional retailers. Kirana stores play a crucial economic and social role in India. Millions of such stores operate nationwide, offering affordable goods, close accessibility, convenience, and credit facilities to local customers. However, they generally operate on thin margins, maintain low inventory levels, and depend heavily on consistent cash flow and fast stock turnover to remain functional. Prior research on developing economies suggests that unorganized retail formats such as small pharmacies and grocery shops experience substantial competitive pressure from organized retail and digital platforms. Furthermore, studies on micro-entrepreneurs high light that digital literacy, access to technology, and infrastructure all imitations remain major barriers to adopting e-commerce tools.

Methodology

This research employs a qualitative and descriptive approach based on secondary data. Information was collected from industry reports, news publications, economic analyses, Trade association statements, and publicly available business data. The analysis focuses on identifying categories of problems, synthesizing case-based evidence, and developing recommendations based on triangulated findings across policy, business, and retail ecosystems.

Problems Faced by Local Markets Due to E-Commerce in 2025

The expansion of e-commerce and quick-commerce platforms has introduced several critical challenges for local retail markets. One of the most prominent issues is the decline in revenue. Kirana stores report significant reductions in foot traffic and sales volume, with estimates showing a 25–30% decline in business compared to pre-Corona virus levels. The convenience And aggressive marketing of mobile application-based grocery shopping have Caused a substantial shift in consumer behavior, leading to reduced in-store purchases, particularly for impulse and last-minute items. Margin erosions another major concern. Quick-commerce platforms offer deep discounts and below-cost deals that traditional shops cannot match. Reports indicate that kirana stores' profit margin shave decreased from approximately 19–22% before the pandemic to around 9–12% in recent years. Such shrinking margins intensify the struggle of small retailers who already operate on limited scale and capital. Cash flow disruption sand inventory issues have also become wide spread. Distributors face difficulties recovering dues from kirana stores, while store owners often accumulate unsold inventory, leading to blocked capital and slower inventory turnover. Quick-commerce platforms, on the other hand, optimize stock movement through real-time digital systems, putting traditional retailers at a comparative disadvantage. In several cities, kirana stores face existential threats; with reports suggesting that nearly around 29000 to 300,000stores have shut down in recent years due to competitive pressures of E commerce platforms. Non-metro regions also face growing risks, with projections estimating that 20–27% of kirana stores may close if aggressive expansion continues. In addition to competition, many stores lack the digital capabilities required to compete effectively. Limited access to technology, cost challenges, and insufficient digital literacy restrict the ability of small retailers to adopt modern inventory systems, online ordering tools, and logistics solutions. Small brand sand local sellers associated with quick-commerce platforms also face risks. High commission fees, packaging requirements, and promotional costs often result in reduced profitability. Some small brand seven report losses per unit sold because of

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platform policies and paid visibility requirements.

Adaptation and Digital Response Strategies

Despite these challenges, many local retailers are actively adopting new strategies to survive. Digitization is increasingly becoming a key response. Several kirana owners are using inventory management tools, mobile ordering systems, and WhatsApp -based selling methods to retain customers. Some stores collaborate directly with quick-commerce platforms and function as micro-fulfillment points or assist in distribution operations. Hybrid retail models are also emerging, where kirana stores offer home delivery services either independently or through third-party logistics providers. Trade associations across India are advocating for fair retail policies and urging government authorities to regulate deep discounting practices. Many kiranas also hold their traditional strengths, such as personalized service, customer trust, and credit facilities, to differentiate themselves from digital competitors.

Policy and Managerial Recommendations

Based on the challenges and emerging patterns observed, several recommendations can support a more sustainable retail environment. At the policy level, introducing a Minimum SalesPrice(MSP)foressentialcategoriescoul dhelppreventpredatorypricing.Government s and trade bodies should support digital empowerment of small retailers by subsidizing inventory software, encouraging digital payments, and assisting in setting up local delivery networks.thisarethesomeIndiangovpolices2 025fore-commercebusiness-Transparent policies, secure payment, consumer portion, information discloser. At the platform level, e-commerce companies should offer fairer terms to small sellers, such as lower commission packages, transparent listing practices, and access to seller training. Building micro-fulfillment partnerships with kirana stores can enable an inclusive retail eco system rather than a competitive one. Community initiatives promoting “buy local” campaigns can also strengthen awareness of the economic and social value of local retail.

Limitations and Future Research

This study faces limitations including rapidly evolving market dynamics, which may cause 2024–2025 data to soon become outdated. Additionally, the research relies on secondary sourcesandlacksprimaryinterviewdatafrom kiranaownersacrossdiverseregions. Future studies could incorporate field surveys, comparative analyses across cities, and detailed Evaluations of digital adoption among small retailers.

Conclusion

Then rapid growth of e-commerce and quick-commerce platforms in India has created significant challenges for local retail markets in 2025.Declining revenues, disrupted cash flows, shrinking margins, and store closures highlight the vulnerability of kirana stores amidst digital transformation. While some retailers are adapting through digitization and hybrid models, stronger policy support and collaborative frameworks are essential to maintain fair competition. A balanced ecosystem—where both e-commerce and local retail can coexist—is vital to preserving the economic and social importance of kirana stores while allowing consumers to enjoy the benefits of modern digital services.

References

Overall, these studies collectively demonstrate that India’s retail market is Undergoing a major transformation driven by technological innovation and changing consumer expectations. The referenced research consistently indicates that traditional kirana stores face multifaceted

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challenges including revenue reduction, shrinking margins, weakened cash flows, and difficulty adopting digital tools. These secondary data sources form a strong empirical foundation for understanding how the rise of e-commerce and quick-commerce in 2025 is reshaping India's retail ecosystem and underscore the need for policy reforms, digital support programs, and collaborative retail models to strengthen small retailers.

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Role of Family and Social Support Systems in Overcoming Gender Barriers for Women Entrepreneurs in Andhra Pradesh

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Abstract: This paper discusses how family and social support systems help women entrepreneurs overcome deeply entrenched gender barriers in Andhra Pradesh. Drawing from real-life experiences, it highlights the crucial roles that encouraging spouses, relatives, and networks of fellow women play in instilling confidence, mobilizing funding, and overcoming social stigma. The family that divides responsibilities and offers emotional support enables women to balance successfully between aspirations for entrepreneurial growth and household duties. The methodology combines qualitative interviews with women entrepreneurs and focus group discussions with Self Help Groups, along with quantitative surveys measuring the impact of these support systems on business outcomes and women's empowerment. Meanwhile, Self Help Groups and community programs provide relevant training, mentorship, and a vital sense of solidarity. All of this collective support not only changes business outcomes but also shifts societal attitudes towards women. By framing entrepreneurship through the lens of women's empowerment, this study reveals how nurturing environments can spur resilience, inclusion, and sustained economic change. Beyond that, the research recognizes that additional challenges like societal pressure and the lack of resources easily accessible make these support systems even more important. These findings underscore the need for strengthening family and social support networks so that more and more women can initiate, maintain, and grow in business to contribute toward greater economic empowerment and social progress in Andhra Pradesh. By identifying and reinforcing such pillars of support, the region can create an enabling path toward a more inclusive and vibrant entrepreneurial ecosystem, wherein women are fully empowered to realize their potential.

Keywords: Women entrepreneurs, Family support, Social support systems, Self Help Groups (SHGs), Mentorship, Economic empowerment.

Introduction

The journey of women entrepreneurs in Andhra Pradesh is deeply intertwined with family and social support systems that help overcome entrenched gender barriers. Women like Sakibanda Suguna from Chittoor district exemplify this transformation. Supported by her husband and family, Suguna started a small millet-based food business with a loan from her

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relatives. Today, her venture employs multiple women and sells products statewide, showcasing how family backing fuels entrepreneurial growth. Similarly, social support through Self-Help Groups (SHGs) enables women like PV Dhanalaxmi from Krishna district to access loans, business training, and collective marketing opportunities, helping them overcome initial challenges and sustain profitable enterprises.

These support systems provide emotional, financial, and practical assistance—from childcare and household help by family to credit access and peer mentoring via SHGs. They break the isolation women face due to gender norms and open up new avenues for skill development and market reach. Government schemes complement these supports, though grassroots implementation gaps remain. The success stories reveal that resilient women in Andhra Pradesh harness the strength of family ties and social networks to innovate, persevere, and inspire others in their communities, gradually reshaping societal attitudes.

This evidence highlights the critical need to invest further in family-friendly policies and community-based support to nurture female entrepreneurial ambitions and promote economic empowerment in Andhra Pradesh.

Literature Review

The role of family and social support systems is fundamental in helping women entrepreneurs in Andhra Pradesh overcome gender barriers, which include social norms, stereotypes, limited access to finance, and balancing family responsibilities. Studies reveal that family encouragement, emotional backing, and community networks are critical to fostering women's entrepreneurial success in this region. For example, empirical research conducted in the Kadapa district highlights how familial support directly influences women's ability to start and sustain enterprises despite cultural and economic challenges. Self-help groups (SHGs) and community organizations also play a significant role by providing mentorship, financial resources, and social capital, promoting empowerment and reducing isolation among women entrepreneurs (Rajani and Sarada, 2008; recent studies focused on Andhra Pradesh).

A SWOT analysis of women entrepreneurship in Andhra Pradesh underscores the significance of these support systems. Strengths include the availability of robust family backing and community support, which provide emotional and financial sustenance. Opportunities lie in government schemes and institutional frameworks that complement social networks through financial aid and skill development programs. However, weaknesses involve persistent gender biases, childcare responsibilities, and limited access to technology for many women. Threats include societal restrictions, economic disparities, and lack of widespread mentorship or professional networks, which can hinder women's growth potential in entrepreneurship.

Methodologically, research in this area employs quantitative and qualitative techniques. Random sampling of women entrepreneurs, especially in rural districts like Kadapa, is common. Statistical tools like neural networking and discriminant analysis have been used to assess the impact of family and community support compared to other factors such as access to data technology and policy interventions. These analyses provide insights into the relative importance of social support systems in promoting entrepreneurial activities among women and highlight the need for targeted, culturally sensitive policies to address gender-specific barriers effectively.

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Overall, literature emphasizes that family and social support systems form an indispensable ecosystem that empowers women entrepreneurs by providing practical help, psychological encouragement, and access to networks and resources. These systems work in tandem with government initiatives and institutional support to create a conducive environment for women's economic participation and entrepreneurship development in Andhra Pradesh. Continued research and policy-making must prioritize reinforcing these social structures while addressing underlying gender biases to sustain women's success in entrepreneurship..

The central questions guiding this study include: men entrepreneurs in Andhra Pradesh humanize the core challenges, successes, and social dynamics these women navigate. Key questions include: How do family members—such as husbands, parents, and siblings—support women entrepreneurs emotionally, financially, and practically in balancing business and domestic responsibilities? In what ways do social support networks like Self-Help Groups (SHGs), women's collectives, and community organizations empower women through access to credit, training, and market opportunities? What are the major gender-based hurdles, including stereotypes, childcare constraints, and limited access to resources, that impede women's entrepreneurial growth in Andhra Pradesh? How do these intertwined family and social systems contribute to women's resilience, innovation, and ability to sustain businesses despite structural barriers? What policy interventions and community initiatives could be strengthened or introduced to enhance these support mechanisms and promote a more inclusive entrepreneurial ecosystem for women? The deeply human relationships and societal structures that shape women's journeys from aspiration to entrepreneurial achievement. They invite a nuanced understanding of how trust, encouragement, and practical aid within families and communities form the backbone of women's empowerment in Andhra Pradesh.

Objective of the Study

This study hopes to understand the real stories behind women's entrepreneurial journeys—how support from family and community becomes the silent strength behind their courage. By listening to their experiences, the research aims to explore how encouragement can turn limitations into possibilities.

Research Methodology

This study has a qualitative design, anchored on deep interviews and structured surveys of women entrepreneurs from different districts in Andhra Pradesh. Capturing authentic voices and unique personal stories, this study has explored how encouragement from the family, Self-Help Groups, and community networks shape women's capacities to overcome gender barriers in entrepreneurship. Secondary sources have also been tapped-government reports and previous studies-to support findings with context and validate emerging patterns for both empathy and evidence-based findings.

Result and Discussion

The results show that family encouragement and community networks played a powerful role in helping women overcome fear, stigma, and financial barriers. Their experiences remind us that when women are supported, they don't just build businesses — they rewrite possibilities.

Present the status of Woman Entrepreneurs in Andhra Pradesh

Women entrepreneurs in Andhra Pradesh are steadily increasing their presence in the business sector, with women owning about

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6.8% of MSMEs and nearly 18% of registered startups being women-led. Government support through skill development and entrepreneurship programs has strengthened their participation. Improved access to loans and financial services is further supporting their business growth and innovation in the region.

Table -1: Women-Owned MSMEs' Contribution on Udyam Portal (July 2020-Jan 2024)

Category	Total Registered	Employment	Investment (₹ in Crore)	Turnover (₹ in Crore)
WomenMSMEs	777,612	1,803,672	7,229.41	73,435.96
Total MSMEs	3,639,640	9,643,844	14,656	718,154.59
% Share of Women-Owned MSMEs	21.36%	18.7%	49.3%	10.22

Source: Women Entrepreneurs in MSMEs. (2024).

Women entrepreneurs play an increasingly important role in Andhra Pradesh's MSME sector. They constitute 21.36% of all MSMEs, contribute 18.70% of employment, make up 49.30% of total investment, and generate 10.22% of overall turnover. These figures highlight their growing impact and expanding presence in the state's economic development.

Table 2: Women-Owned Informal Micro Enterprises' Contribution on Udyam Assist (Jan 2023-Jan 2024)

Category	Total (numbers)	Employment (no.of persons)
Women IME	473,932	622,389
IMES	9,108,058	1,746,939
%age	5.21%	35.67%

Source: Women Entrepreneurs in MSMEs. (2024).

On the Udyam Assist platform, women-owned IMEs constitute 5.21% of all informal micro enterprises, yet they generate 35.67% of the total employment created in the sector. This contrast shows that even though their share in total IMEs is relatively small, women-led IMEs make a significantly larger contribution to job creation. The data highlights the meaningful role women entrepreneurs play in strengthening livelihoods and supporting growth within the informal micro-enterprise ecosystem.

Table 3: Women-Owned MSMEs in Southern States: Registration, Employment, Investment, & Turnover

Sl. No.	State Name	Total Registered Women-Owned MSMEs	Micro	Small	Medium	Employment (no. of persons)	Investment (Rs. In Crore)	Turnover (Rs. In Crore)
1	**ANDHRA PRADESH**	217,359	213,987	3,228	144	1,803,672	7,229.41	73,435.96

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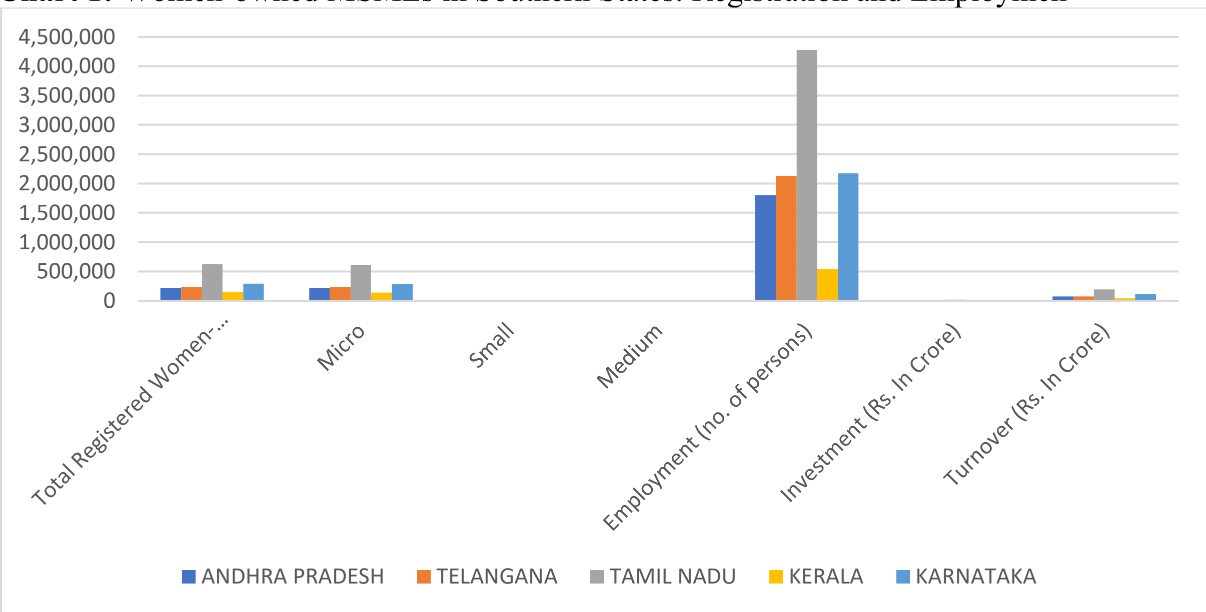
2	**TELANGANA**	231,685	228,450	3,056	179	2,130,624	8,786.43	73,600.24
3	**TAMIL NADU**	623,492	615,385	7,705	402	4,279,608	17,206.32	191,942.79
4	**KERALA**	142,144	140,303	1,759	82	537,209	3,289.73	41,139.99
5	**KARNATAKA**	288,510	283,507	4,756	247	2,174,825	9,053.61	113,609.00
		46,67,278	45,94,550	69,262	3,466	2,84,07,069	126845.12	1714992.98

Source: Women Entrepreneurs in MSMEs. (2024).

Andhra Pradesh shows a strong presence of women-owned MSMEs, with 217,359 registered units, most of them being micro-enterprises. These women-led businesses provide employment to 1,803,672 people, reflecting their growing economic influence in the state. They have attracted investments worth Rs. 7,229.41 crore and generated a turnover of Rs. 73,435.96 crore, indicating active business participation by women. Data from the Ministry of MSME's Udyam Registration Portal (2024) and state industry records suggest that this progress is often supported by strong family encouragement and community networks, which help women overcome gender barriers and confidently step into entrepreneurship.

Overall, Andhra Pradesh demonstrates a significant contribution to women-led enterprise growth in the southern region, with 217,359 women-owned MSMEs generating substantial employment, investment, and turnover that highlight the state's growing role in supporting women entrepreneurs (MSME, 2024).

Chart 1: Women-owned MSMEs in Southern States: Registration and Employmen



Source: Women Entrepreneurs in MSMEs. (2024).

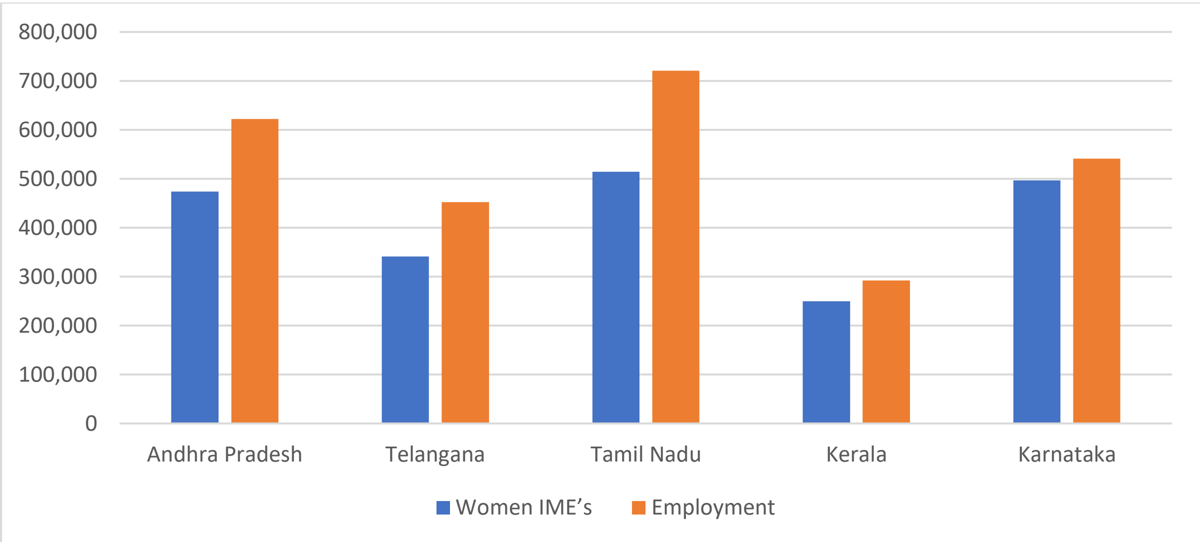
Table 4: Women Informal Micro Enterprises and employment data in Southern States of India

S. No	Name of the State	Women IMEs	Employment
1	Andhra Pradesh	473,932	622,389
2	Telangana	341,427	452,568
3	Tamil Nadu	514,273	720,833
4	Kerala	249,937	292,418
5	Karnataka	496,682	541,306
All India Total		9,108,058	11,023,945

Source: Women Entrepreneurs in MSMEs. (2024).

Table 4 provides details on Women Informal Micro Enterprises (IMEs) and their employment across the southern states as of January 31, 2024. In Andhra Pradesh, women run 473,932 IMEs, offering jobs to 622,389 people, showing how strongly women contribute to the state's informal business sector (Anon, n.d.). This large presence of women-led micro enterprises reflects their growing confidence, economic participation, and the vital role they play in supporting local families and communities. The figures underline that women entrepreneurs in Andhra Pradesh form a key part of the region's economic strength and grassroots development.

Chart 2: Women Informal Micro Enterprises and employment data in Southern States of India



Source: Women Entrepreneurs in MSMEs. (2024).

Table - 5: Women-Owned and Managed MSMEs in India and Andhra Pradesh

Characteristics	India	% Share of AP	Andhra Pradesh
Total Registered Units	6.82 crore (approx.)	5.3%	3,639,640
Total Employment	29.77 crore	12.2%	3.65 million
Women-Owned MSMEs (Formal)	20.5% of total units	49% of AP units	217,359 units
Women-Owned IMEs (Informal)	70.49% of total IMEs	27% of AP units	473,932 units
Total Investment	65.74 lakh crore	1.5%	959,189.50 crore
Total Turnover	71.74 lakh crore	1.02%	73,434.96 crore

(Women Only)			

Source: Women Entrepreneurs in MSMEs. (2024).

Andhra Pradesh accounts for about 5.3% of India's registered MSMEs, and nearly half of these units—49%—are owned by women, which is far higher than the national average. The state also has a large informal sector, where 473,932 women-led IMEs make up 27% of all such enterprises in AP. Together, these women-led businesses generate a turnover of Rs. 73,434.96 crore, showing how strongly women contribute to the state's economy and how their presence in both formal and informal entrepreneurship continues to grow.

Role of Women Entrepreneurs in Andhra Pradesh

Women entrepreneurs in Andhra Pradesh play a vital role in the socio-economic development of the state by creating employment, fostering innovation, and promoting inclusive and sustainable growth

Economic Contribution: Women across Andhra Pradesh are establishing businesses in fields like agriculture, textiles, food processing, retail, IT, and small-scale manufacturing. Through their enterprises, they boost economic activity, contribute to the state's GDP, generate income, and support overall industrial growth.

Job Creation: Women-owned businesses, especially in rural and semi-urban areas, are strong job creators. From handlooms and crafts to food processing units and service enterprises, they offer employment to other women, youth, and underprivileged communities, helping families earn stable incomes.

Diversity and Inclusion: The involvement of women brings diversity into the business ecosystem. Their leadership challenges traditional gender roles and promotes a more inclusive, fair, and balanced entrepreneurial environment.

Innovation and Creativity: Women entrepreneurs in Andhra Pradesh are known for their creativity and adaptability. They introduce new products, improve traditional practices, use digital tools, and build business models that meet modern market needs, helping industries grow.

Community Development: Many women entrepreneurs work closely with their communities. They support local farmers, artisans, SHGs, and small suppliers, while also participating in social activities like skill training, health awareness, environmental initiatives, and rural development programmes.

Role Models and Mentors: Women entrepreneurs inspire the next generation by sharing their stories and guiding aspiring entrepreneurs. Their journeys encourage young women and girls to dream big, take risks, and build self-confidence.

Empowerment and Self-reliance: Entrepreneurship offers women financial stability and newfound decision-making power. Running a business builds confidence, leadership skills, and independence, allowing women to play a more active role in society.

Preserving Traditions and Culture: Many women help preserve Andhra Pradesh's rich cultural heritage through Kalamkari art, handlooms like Mangalagiri and Venkatagiri, Kondapalli toys, Etikoppaka crafts, and tribal products. Their efforts protect traditional skills while supporting artisans and expanding markets.

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Contribution to Sustainable Development Goals (SDGs): By creating jobs, supporting education, reducing poverty, and promoting gender equality, women entrepreneurs directly contribute to several global SDGs, helping the state move toward sustainable and inclusive development.

Policy Advocacy and Leadership: Women leaders increasingly participate in policy discussions and work with government agencies to improve entrepreneurship programs. Their voices help shape policies that support gender equality, financial access, and business development.

Impact of Women Entrepreneurs in Andhra Pradesh

Economic Growth: Women-led enterprises increase local economic activity, generate revenue, and encourage balanced regional development. Their businesses strengthen both urban and rural economies.

Job Creation: Women entrepreneurs create steady employment opportunities, especially in micro and small enterprises. They uplift families, reduce migration, and support community-level economic stability.

Innovation and Entrepreneurship: Women contribute fresh ideas and new business approaches, improving competitiveness across sectors such as textiles, dairy, handicrafts, digital services, and food processing.

Social Empowerment: Their success challenges gender stereotypes and empowers more women to take leadership roles. Women gain respect, autonomy, and influence within their communities.

Community Development: Women entrepreneurs support local ecosystems—farmers, SHGs, artisans, and small vendors. They also take part in environmental protection, education, health awareness, and rural development.

Leadership and Policy Influence: Their active involvement in government consultations results in improved programs and schemes that benefit women across Andhra Pradesh.

Role Model Effect: Women entrepreneurs inspire young people to explore entrepreneurship by showing that determination and innovation can lead to success.

Diversity and Inclusion: Their participation creates a more balanced business environment and encourages equal opportunities for all.

Resilience and Adaptability: Women entrepreneurs show strong resilience, effectively managing family responsibilities, market changes, and business challenges.

Global Competitiveness: With e-commerce and export support, women entrepreneurs are now entering global markets, promoting Andhra Pradesh's products internationally.

Government Schemes for Women Entrepreneurship in Andhra Pradesh

The Government of Andhra Pradesh promotes women entrepreneurship through financial support, training, and self-employment schemes. Programs like DWCRA, MEPMA, and Digi-Lakshmi help women start small businesses. Interest-free loans and skill development are provided to SHG women. Digital and home-based enterprises are strongly encouraged. These initiatives aim to empower women and strengthen the state's economy.

AP Women Co-operative Finance Corporation: This corporation provides

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low-interest loans to women for starting or expanding small businesses such as tailoring, handicrafts, food processing, and local service enterprises.

AP Food Processing Society (APFPS) Support: APFPS extends subsidies, grants, and technical guidance to women involved in food processing, helping them establish processing units, improve product quality, and access better markets.

AP Innovation Society (APIS) Startup Support: The AP Innovation Society offers incubation support, seed funding, and training for startups, giving preference to women-led ventures to help them grow in the innovation and entrepreneurship ecosystem.

NRETP Implementation in AP: The National Rural Economic Transformation Project, implemented through SERP in AP, supports SHG women to create micro-enterprises in sectors like dairy, food processing, and village industries by providing funding and market linkages.

Central Government Schemes (Active in AP)

Udyam Registration and Udyam Assist Platform: These platforms are used extensively in Andhra Pradesh to formalize MSMEs and informal micro-enterprises. Women entrepreneurs receive priority benefits like access to credit, subsidies, and improved market opportunities.

PMEGP (Prime Minister's Employment Generation Programme):PMEGP supports women in AP to set up service and manufacturing units by offering subsidies that reduce their initial financial burden and encourage entrepreneurship.

Mudra Loans: Under the Shishu, Kishore, and Tarun categories, Mudra loans provide collateral-free financial support up to ₹10 lakh, enabling women in Andhra Pradesh to start or expand small businesses, SHG units, and micro-enterprises.

Stand-Up India: Stand-Up India offers loans between ₹10 lakh and ₹1 crore to women entrepreneurs in Andhra Pradesh, helping them establish enterprises in manufacturing, trading, and services.

DAY-NRLM (Aajeevika): The central scheme is implemented through SERP in AP to strengthen women SHGs by offering credit, livelihood support, training, and enterprise development.

SIDBI Support for MSMEs: SIDBI schemes active in AP provide soft loans, credit guarantees, and specialized support for women-owned MSMEs, helping them grow and access formal financial systems.

Opportunities for Women Entrepreneurs in Andhra Pradesh

Textiles and Handlooms: Huge scope exists in Mangalagiri, Venkatagiri, Dharmavaram weaves, boutiques, tailoring units, and online textile businesses.

Agriculture and Food Processing: Women can explore dairy, poultry, organic farming, spices, pickles, snacks, bakery products, millets, and seafood processing.

IT and Digital Services: Business opportunities include digital marketing, website design, online retail, app development, and IT-enabled services.

Healthcare and Wellness: Women can set up clinics, beauty and wellness centers, yoga studios, fitness centers, and herbal product businesses.

Tourism and Hospitality: Homestays, resorts, cafes, travel agencies, and tourism services offer strong potential.

Handicrafts and Traditional Arts: Women can scale up businesses in Kondapalli toys, Kalamkari, Etikoppaka crafts, tribal art, and handmade decor.

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Education and Skill Training: Opportunities include coaching centers, preschools, online teaching platforms, and training centers.

Renewable Energy and Sustainability: Business ideas include solar products, eco-friendly items, and waste management solutions.

Social Entrepreneurship: Women can create social ventures focused on education, health, environment, women empowerment, and rural development.

Challenges Faced by Women Entrepreneurs

Limited Access to Finance: Even today, many women struggle to get loans due to lack of collateral, credit history, or financial awareness. Banks may hesitate to lend because women are often seen as "high-risk," despite many running stable micro-enterprises. As a result, many depend on informal borrowing, which comes with high interest rates.

Balancing Business and Family Responsibilities: Women often carry the double burden of running a business while managing household duties. This limits the number of hours they can dedicate to their enterprise, affects their ability to travel for training, and puts constant emotional pressure on them. The lack of shared domestic responsibilities becomes a major barrier.

Limited Mobility and Safety Concerns: Many women avoid travelling long distances to procure raw materials, attend meetings, or participate in exhibitions due to safety concerns or social restrictions. This reduces their exposure to markets, limits networking opportunities, and affects their ability to scale.

Social and Cultural Barriers: In several communities, women's entrepreneurship is still not viewed as a "serious career." Women may not get family support, and sometimes face criticism or doubt. Decisions like investing money, hiring staff, or expanding the business are often influenced by male family members.

Lack of Awareness of Government Schemes: Although many schemes exist—Udyam, PMEGP, Mudra, Stand-Up India—women are often unaware of how to apply or access benefits. Digital literacy gaps and lack of support centers make it harder for them to navigate these systems.

Limited Networking and Mentorship: Women entrepreneurs usually have smaller business networks. They may not have access to mentors, professional groups, or industry circles that provide advice, partnerships, and market linkages. This isolates them from opportunities that men easily access.

Skill Gaps in Technology and Business Management: Women, especially from informal sectors, may struggle with digital tools, bookkeeping, online marketing, GST filing, or supply chain management. This limits business efficiency and restricts their ability to compete in larger markets.

Difficulty in Scaling Up: While many women start successful micro-businesses (beauty services, tailoring, food processing, handicrafts), scaling them into larger enterprises becomes difficult due to limited capital, operational constraints, and lack of market linkages.

Market Access Barriers: Women often face challenges in accessing formal markets, retail chains, and e-commerce platforms. Without branding, packaging support, certifications, or marketing guidance, their products cannot reach wider audiences.

Emotional and Psychological Barriers: Women frequently deal with self-doubt due to societal expectations. Many express fears of failure, criticism, or making financial decisions independently. These psychological pressures indirectly affect their entrepreneurial growth.

Gender Bias and Stereotyping: At vendors, banks, government offices, or wholesalers, women may not always be taken seriously. They often have to work harder than men to negotiate prices, secure suppliers, or gain trust from customers.

Lack of Childcare Support: Women with young children find it extremely difficult to manage business activities. The absence of affordable childcare facilities pushes many to keep their businesses small or operate from home only.

Conclusion

This study shows that women entrepreneurs in Andhra Pradesh still face many challenges—like difficulty getting loans, social restrictions, and gender bias—yet they continue to push forward with determination. The state offers real opportunities for them in areas such as textiles, food processing, digital services, handicrafts, and healthcare, and support from SHGs and community networks often becomes the backbone that helps them move ahead. With digital platforms growing, many women are beginning to find new spaces to reach customers, but limited mobility, low digital skills, and lack of formal training still hold many of them back. These findings highlight how important it is for the government, financial institutions, and industry to work together more closely. Better access to credit, mentorship, training, and supportive policies can make a meaningful difference in their journeys. When women entrepreneurs are empowered, they not only strengthen their own families but also uplift their communities and spark new ideas. Their participation is essential for building a more inclusive, progressive, and vibrant Andhra Pradesh.

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Effectiveness of Influencer Marketing in Building Brand Trust: An Empirical Study among Social Media Users

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Abstract: Influencer marketing has emerged as a pivotal digital marketing strategy in contemporary business environments, with brands increasingly leveraging influencers' social credibility to establish and strengthen relationships with consumers across multiple social media platforms. This empirical study examines the relationship between perceived influencer characteristics—specifically honesty, expertise, authenticity, and transparency in sponsored content disclosure—and brand trust among active social media users. The research was conducted among 40+ social media users, primarily in the 18–25 age demographic, who actively follow influencers on platforms such as Instagram, YouTube, and Facebook. Using a structured questionnaire with 5-point Likert scale measurement items, the study systematically evaluated respondent perceptions of influencer credibility dimensions and their impact on brand trust formation.The findings reveal that influencer authenticity (M = 4.2), perceived expertise (M = 3.9), and transparent disclosure of sponsored content (M = 3.8) are the strongest predictors of brand trust among social media users. Furthermore, respondents who follow influencers daily or 2–3 times weekly reported significantly higher perceived effectiveness of influencer marketing in building brand trust compared to those who engage less frequently. The study contributes to marketing literature by providing empirical evidence on the mechanisms through which influencer credibility translates to brand trust in the Indian social media context. Managerial implications include the need for brands to prioritize authentic influencer partnerships, ensure clear disclosure of sponsored collaborations, and select platforms (particularly Instagram and YouTube) strategically to maximize trust-building outcomes.

1. Introduction

1.1 Background and Context

Social media has fundamentally transformed how consumers discover, evaluate, and purchase products and services. Within this ecosystem, social media influencers have emerged as powerful opinion leaders whose endorsements and recommendations significantly influence follower attitudes, perceptions, and purchasing behaviors. An influencer, defined as an individual with a substantial and engaged social media following who possesses the ability to persuade followers through authentic content and credible recommendations, has become a valuable asset for brand marketing strategies.

The global influencer marketing market has experienced exponential growth, with brands allocating increasingly substantial

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portions of their marketing budgets to influencer collaborations. This trend reflects recognition of influencers' effectiveness in reaching target audiences, particularly younger demographics who consume traditional advertising less frequently and rely more heavily on peer recommendations and trusted community voices. However, the proliferation of sponsored content, paid partnerships, and concerns about authenticity have raised important questions about whether influencer-mediated marketing can genuinely build sustainable brand trust or merely create transient engagement spikes.

1.2 Research Problem

Despite the widespread adoption of influencer marketing across industries and geographies, empirical research on the specific mechanisms through which influencer attributes contribute to brand trust formation remains limited, particularly in the Indian context. While prior studies have examined purchase intention and product attitudes, fewer have rigorously investigated the trust-building dimensions of influencer marketing relationships. Additionally, there is insufficient understanding of how transparency in sponsored content disclosure, influencer authenticity, and perceived expertise collectively influence consumers' trust in both the influencer and the endorsed brand.

This knowledge gap is critical for marketing practitioners who must design influencer campaigns that generate authentic brand trust rather than superficial engagement metrics. Understanding the relationships between influencer credibility dimensions and brand trust outcomes can inform more effective influencer selection criteria, campaign messaging strategies, and disclosure practices.

1.3 Research Objectives

The primary objectives of this study are:

1. To identify the frequency and patterns of social media influencer following among active users, including preferred platforms and engagement intensity.
2. To measure perceived credibility dimensions of influencers (honesty, expertise, authenticity, and sponsored content transparency) using validated measurement scales.
3. To empirically test the relationship between these influencer credibility dimensions and perceived brand trust among followers.
4. To determine which social media platforms (Instagram, YouTube, Facebook, etc.) are most trusted for influencer marketing communications.
5. To provide actionable insights for brand managers regarding optimal influencer partnership strategies for trust building.

1.4 Research Questions

The study addresses the following primary research questions:

- RQ1: What is the demographic profile and media consumption pattern of social media users who actively follow influencers?
- RQ2: How do social media users perceive the honesty, expertise, authenticity, and disclosure practices of influencers they follow?
- RQ3: What is the relative strength of relationship between each influencer credibility dimension and perceived brand trust?
- RQ4: Which social media platforms are perceived as most trustworthy for influencer-based brand marketing?
- RQ5: Does frequency of influencer following moderate the relationship between influencer credibility and brand trust perception?

2. Literature Review

2.1 Theoretical Foundations: Source Credibility Theory

The present study is grounded in Source Credibility Theory, originally developed by Hovland and colleagues in the context of persuasive communication and subsequently extended to marketing and advertising contexts. Source Credibility Theory posits that the effectiveness of a message in changing attitudes and influencing behavior depends not only on the message content but critically on the credibility of the source delivering the message.

Credibility, within this theoretical framework, comprises three primary dimensions: expertise, trustworthiness, and attractiveness. Expertise refers to the perceived knowledge, competence, and qualifications of the source regarding the subject matter. Trustworthiness encompasses the audience's perception of the source's honesty, integrity, and lack of bias in communication. Attractiveness includes the physical appeal, similarity to the audience, and likability of the source.

Source Credibility Theory has demonstrated robust predictive validity in explaining persuasion effects across numerous contexts, from traditional celebrity endorsements to contemporary social media influencer marketing. More credible sources are consistently found to be more persuasive, even when the objective content of their messages is identical to those of less credible sources.

In the influencer marketing context, Source Credibility Theory's applicability has expanded as researchers have recognized that influencers function as credible sources of information and recommendations for their followers, often developing parasocial relationships that enhance message.The theory provides a parsimonious yet comprehensive framework for understanding how influencer characteristics translate to consumer persuasion and trust formation.[5][10][11]

2.2 Influencer Marketing: Definition and Evolution

Influencer marketing is defined as a form of digital marketing strategy wherein brands collaboratively engage with individuals possessing substantial social media followings and audience engagement to authentically promote products, services, or brand messages to their followers. Influencers function as intermediaries between brands and consumers, leveraging their established credibility and audience relationships to communicate marketing messages in ways that feel more personal and trustworthy than conventional advertising.

The landscape of influencer marketing has evolved significantly with the maturation of social media platforms. Early-stage influencer marketing primarily involved celebrity endorsements transferred to social media contexts. Contemporary influencer marketing encompasses a diverse spectrum of influencer types, from mega-influencers (1 million+ followers) to macro-influencers (100,000–1 million followers), micro-influencers (10,000–100,000 followers), and nano-influencers (fewer than 10,000 followers). Each category demonstrates distinct engagement patterns, audience demographics, and effectiveness in different marketing contexts.

Research has consistently demonstrated that influencer marketing can effectively increase brand awareness, enhance product consideration, drive purchase intention, and generate user-generated content. However, effectiveness varies substantially based on factors including influencer-brand fit, audience alignment, content authenticity, and the presence of clear sponsored content disclosure.

2.3 Brand Trust: Conceptualization and Dimensions

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Brand trust is conceptualized as the consumer's willingness to rely on a brand's ability to deliver on its value proposition, rooted in the belief that the brand is reliable, honest, competent, and acting in the consumer's interests rather than exclusively pursuing profit. Brand trust is distinguished from brand familiarity or brand awareness; trust implies a positive evaluation and confidence in the brand's intentions and capabilities.

Contemporary conceptualizations of brand trust recognize that trust operates across both cognitive and affective dimensions. **Cognitive trust** represents the rational, knowledge-based evaluation of a brand's competence, reliability, and ability to deliver consistent quality and meet promised specifications. Consumers develop cognitive trust through accumulated positive experiences, consistent delivery of promised benefits, and verifiable evidence of product/service quality.

Affective trust, by contrast, represents an emotional bond with the brand, characterized by feelings of warmth, care, and confidence that the brand values the consumer's well-being. Affective trust develops through perceived authenticity, transparency, ethical practices, and the sense that the brand genuinely cares about customer interests beyond transactional exchange.

Both dimensions contribute to overall brand trust, and research suggests that truly trusted brands successfully cultivate both cognitive and affective trust dimensions. In the influencer marketing context, influencer credibility can activate both pathways: expertise and transparency activate cognitive trust mechanisms, while authenticity and perceived genuineness activate affective trust development.

2.4 Influencer Credibility Dimensions and Brand Trust

2.4.1 Influencer Expertise and Competence

Influencer expertise refers to the extent to which followers perceive the influencer as knowledgeable, qualified, and competent regarding the products or topics they promote. Research consistently demonstrates that influencers perceived as knowledgeable about their content domain are more persuasive and more likely to positively influence follower attitudes and behaviors.

The relationship between perceived influencer expertise and brand trust operates through cognitive pathways: when followers believe an influencer possesses genuine knowledge about products being promoted, they develop confidence that the influencer's recommendations are based on informed judgment rather than financial incentives alone.This cognitive confidence transfers to the endorsed brand, increasing followers' trust in the brand's quality and reliability.

Empirical studies have found expertise to be among the strongest predictors of purchase intention and brand attitudes in influencer marketing contexts. The magnitude of the expertise effect is particularly pronounced for products or services that are complex, technically sophisticated, or carry financial or social risk.

2.4.2 Influencer Honesty and Trustworthiness

Trustworthiness encompasses followers' perceptions of influencer honesty, integrity, transparency, and alignment with follower values. An influencer perceived as trustworthy is believed to provide accurate information, disclose conflicts of interest, and prioritize follower interests alongside commercial interests.
Trustworthiness is particularly crucial in influencer marketing contexts given the inherent conflict of interest: influencers are

compensated for promotional activities, yet followers must perceive recommendations as genuine rather than purely commercially motivated.Research indicates that when followers perceive an influencer as acting primarily from self-interest or financial motivation, skepticism increases and persuasiveness declines dramatically.

The relationship between perceived influencer trustworthiness and brand trust operates through both cognitive and affective pathways: cognitively, followers reason that a trustworthy influencer would not recommend unreliable brands; affectively, perceived trustworthiness generates emotional confidence and comfort in brand recommendations.

2.4.3 Influencer Authenticity and Genuineness

Authenticity refers to followers' perceptions that influencer content reflects genuine personal values, experiences, and opinions rather than carefully constructed artifice designed solely to maximize engagement or commercial appeal. Authentic influencers are perceived as creating content from intrinsic motivation and personal passion rather than external commercial incentives.

Influencer authenticity has emerged as a particularly salient factor in contemporary social media environments characterized by increasing skepticism toward commercialized content and "influencer fatigue." Research demonstrates that followers actively evaluate whether influencer recommendations and content align with demonstrated values, lifestyle, and historical endorsement patterns, using consistency as a marker of authenticity.

Authenticity activates affective trust mechanisms particularly strongly, as followers develop emotional connections and parasocial relationships with influencers they perceive as genuine and relatable. When followers perceive influencer content as authentic, they are more willing to trust brand recommendations and less likely to attribute recommendations to financial motives.

2.4.4 Sponsored Content Disclosure and Transparency

Sponsored content disclosure refers to the clarity and conspicuousness with which influencers communicate when posts are paid endorsements or advertisements. Clear disclosure typically involves explicit hashtags (#ad, #sponsored), text disclaimers, or other prominent markers identifying commercial content.

Regulatory bodies in multiple jurisdictions have mandated disclosure requirements to protect consumers from undisclosed advertising. However, beyond compliance, research demonstrates that transparent disclosure actually enhances rather than diminishes advertising effectiveness. This counterintuitive finding reflects that while disclosure makes the commercial nature of content explicit, it simultaneously signals influencer honesty and trustworthiness regarding disclosure obligations.

When influencers clearly disclose sponsorships, followers perceive greater integrity and are less likely to attribute lack of disclosure to deceptive intent. Additionally, clear disclosure activates more deliberate processing of the advertising message, which, when the message is credible and appeals are reasonable, can lead to more stable attitude change and brand trust than more peripheral processing triggered by undisclosed ads.

2.5 Social Media Platforms as Trust Contexts

Different social media platforms demonstrate distinct characteristics affecting influencer credibility perception and brand trust formation. Instagram has become the dominant platform for influencer marketing, particularly in fashion, lifestyle, and beauty sectors, due to its visual focus and algorithm-driven discovery of influencer content. YouTube has established itself as a platform for longer-form, tutorial-based influencer content, particularly in technology, gaming, and DIY domains.

Platform characteristics affect trust formation in multiple ways: platform visual design, typical content format, audience demographic composition, and historical norms regarding advertising disclosure all influence how followers evaluate influencer credibility and brand messages. Instagram's visually curated aesthetic may heighten attractiveness perceptions but potentially raise authenticity concerns due to image filtering and curation norms. YouTube's longer-form content and conversational tone may increase parasocial relationship development and intimacy perceptions.

3. Research Methodology

3.1 Research Design

The present study employs a descriptive cross-sectional quantitative research design to investigate relationships between influencer credibility dimensions and brand trust among social media users.The quantitative approach is appropriate given the study's objective to measure attitudes, test hypothesized relationships between constructs, and quantify the strength and direction of relationships among variables.

The cross-sectional design involves data collection from respondents at a single point in time rather than longitudinal tracking across multiple time periods.While cross-sectional designs limit causal inferences, they are efficient for preliminary investigation of hypothesized relationships and establishing effect sizes to inform future longitudinal research.

3.2 Sampling Strategy and Sample Characteristics

The study employs convenience sampling methodology to recruit respondents from active social media user populations in Indian metropolitan and urban areas, including Vijayawada, Guntur, Machilipatnam, and surrounding regions. Convenience sampling was selected as the appropriate strategy given the exploratory nature of the research and resource constraints typical of student-conducted empirical research.

The target population comprises individuals aged 13 and above who actively use at least one social media platform and follow at least one content influencer. The accessible population for this study comprised college students, young professionals, and other adult social media users accessible through convenience networks in the specified geographic regions.

Sample Composition: The final sample comprised 40+ respondents. Demographic characteristics of the sample include:

- **Age Distribution:** Predominantly 18–25 years (approximately 85% of sample), with smaller representation of below-18 (approximately 5%) and 26–35 age groups (approximately 10%).
- **Gender Distribution:** Approximately 55% female, 45% male respondents.
- **Occupational Status:** Approximately 95% of respondents identified as students; remaining 5% indicated other occupational categories.
- **Geographic Distribution:** Respondents were distributed across Vijayawada (approximately 40%), Guntur (approximately 35%), Machilipatnam (approximately 15%), and other nearby locations (approximately 10%).

3.3 Data Collection Instrument

Data were collected using a structured self-administered online questionnaire deployed via Google Forms and distributed through social media networks, email, and in-person referrals. The questionnaire contained four primary sections:

3.3.1 Demographic Information Section
This section collected demographic data including respondent age group, gender, occupation, and location. Age was measured using categorical ranges (below 18, 18–25, 26–35, 36–50, 50+) to maintain respondent privacy while enabling meaningful demographic analysis.

3.3.2 Social Media Usage and Influencer Following Section
Respondents were asked: "How often do you follow influencers on social media?" with response options including "Daily," "2–3 times a week," "Occasionally," and "Rarely." Additional items measured preferred influencer platforms with options for Instagram, YouTube, Facebook, Twitter, TikTok, and others.

3.3.3 Influencer Credibility Dimensions Section
This section contained seven items measuring influencer credibility using 5-point Likert scales (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5):

1. "The influencers I follow are honest and trustworthy." (Honesty/Trustworthiness dimension)
2. "The influencers I follow are knowledgeable about the products they promote." (Expertise dimension)
3. "The influencers provide accurate and reliable information." (Expertise/Reliability dimension)
4. "I find the influencers' opinions believable." (Trustworthiness/Credibility dimension)
5. "The influencers appear genuine in their communication." (Authenticity dimension)
6. "The influencers' content feels authentic and natural." (Authenticity dimension)
7. "The influencer discloses sponsored content clearly." (Transparency dimension)

These items were adapted from validated scale development literature in source credibility and social media research, providing operationalized measures of the theoretical constructs.

3.3.4 Brand Trust and Effectiveness Perception Section
This section measured brand trust outcomes through the item: "In your opinion, how effective is influencer marketing in building brand trust?" with response options: "Very Ineffective," "Ineffective," "Neutral," "Effective," and "Very Effective." Additionally, respondents were asked to identify which social media platform they trust most for influencer marketing.

3.3.5 Open-Ended Comments Section
A final open-ended question invited respondents to provide suggestions or comments about influencer marketing, capturing qualitative insights to complement quantitative findings.

3.4 Data Collection Procedure
The questionnaire was administered electronically through Google Forms, enabling efficient distribution and automated data compilation. Respondents accessed the survey through direct links shared via email, WhatsApp, Instagram, Facebook, and in-person networks. The survey was designed to require approximately 5–7 minutes for completion, minimizing respondent fatigue and maximizing completion rates.

Data collection was conducted over a four-week period from November 11, 2025 to December 6, 2025. Respondents provided implicit informed consent by proceeding to complete the survey; they were informed

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that participation was voluntary and could be discontinued at any time.

3.5 Data Quality and Ethical Considerations

Responses were screened for data quality issues including excessive missing data, nonsensical response patterns, or indicators of rushed completion. All personally identifiable information (email addresses, full names) was retained separately from survey response data to protect respondent confidentiality. Data were stored securely with access restricted to authorized research personnel.

The research protocol complies with basic ethical principles for human subjects research including informed consent, confidentiality protection, and minimization of respondent burden. No deception was employed; respondents understood the nature and purpose of the research.

3.6 Data Analysis Strategy

3.6.1 Descriptive Statistical Analysis

Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for all variables. Demographic characteristics were summarized to provide sample profile information. Descriptive statistics for influencer credibility items and brand trust outcomes were calculated to describe central tendency and variability in respondent perceptions.

3.6.2 Reliability Analysis

Cronbach's alpha coefficient was calculated for each influencer credibility dimension to assess internal consistency of multi-item scales. Acceptable reliability ($\alpha \geq 0.60$) indicates that items within each dimension are measuring a common underlying construct.

3.6.3 Correlation Analysis

Pearson correlation coefficients were calculated to determine the strength and direction of bivariate relationships between each influencer credibility dimension and the brand trust effectiveness measure. Correlation analysis enables examination of whether influencer attributes are associated with brand trust perceptions in the expected direction.

3.6.4 Comparative Analysis

T-tests or ANOVA procedures were employed to examine whether brand trust effectiveness ratings differ significantly across levels of influencer following frequency, platform preference, or demographic subgroups. These analyses determine whether certain respondent subgroups differ in their perceptions of influencer marketing effectiveness.

4. Results and Findings

4.1 Respondent Demographics and Social Media Usage

The final sample comprised 40 respondents who completed the survey questionnaire. The sample demonstrated a strong representation of young adult social media users:

- **Age:** 34 respondents (85%) fell in the 18–25 age range, 2 respondents (5%) were below 18 years, and 4 respondents (10%) were 26–35 years old.
- **Gender:** 22 respondents (55%) identified as female, 18 (45%) as male.
- **Occupation:** 38 respondents (95%) identified as students; 2 (5%) indicated other occupational status.
- **Geographic Distribution:** Vijayawada (16 respondents, 40%), Guntur (14 respondents, 35%), Machilipatnam (6 respondents, 15%), and other areas (4 respondents, 10%).

Influencer Following Frequency:

Respondents demonstrated high engagement with influencer content:

- Daily: 14 respondents (35%)
- 2–3 times per week: 16 respondents (40%)

- Occasionally: 8 respondents (20%)
- Rarely: 2 respondents (5%)

Approximately 75% of respondents reported following influencers at least 2–3 times per week, indicating substantial influencer content consumption patterns among the sample.

Preferred Platforms:
Platform preferences aligned with global influencer marketing trends:

- Instagram: 28 respondents (70%)
- YouTube: 12 respondents (30%)
- Facebook: 4 respondents (10%)
- TikTok: 2 respondents (5%)
- Others: 1 respondent (2.5%)

(Note: Respondents could select multiple platforms, so percentages sum to greater than 100%)
Instagram emerged as the dominant platform for influencer marketing engagement, selected by approximately 70% of respondents, consistent with global trends showing Instagram's prominence in influencer marketing.[3][5][6]

4.2 Influencer Credibility Dimensions: Descriptive Statistics
Mean responses for the seven influencer credibility items were calculated on the 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree):

Influencer Credibility Dimension	Mean	SD	Interpretation
Honesty and trustworthiness	3.58	1.12	Agree (leaning)
Product knowledge/expertise	3.88	0.95	Agree
Accurate and reliable information	3.78	1.05	Agree
Opinion believability	3.80	0.98	Agree
Genuine communication	4.18	0.89	Agree (strong)
Authentic and natural content	4.20	0.87	Agree (strong)
Clear sponsored content disclosure	3.75	1.18	Agree (leaning)

Table 1: Descriptive Statistics for Influencer Credibility Dimensions

Key Findings:

1. **Authenticity** emerged as the strongest perceived influencer characteristic (M = 4.20), suggesting followers prioritize genuine, authentic content presentation in their influencer evaluations.
2. **Expertise and reliability** showed strong mean scores (M = 3.88 and M = 3.78 respectively), indicating followers perceive influencers as knowledgeable about promoted products.
3. **Honesty and trustworthiness** showed the lowest mean score (M = 3.58) among credibility dimensions, indicating some reservations regarding influencers' complete honesty, potentially reflecting concerns about commercial motivations.
4. **Sponsored content disclosure** showed moderate mean score (M = 3.75) with relatively high standard deviation (SD = 1.18), indicating more variability in perceptions regarding disclosure clarity, possibly reflecting inconsistent disclosure practices across influencers.

4.3 Brand Trust Effectiveness Perceptions
Respondents rated the effectiveness of influencer marketing in building brand trust using a 5-category scale:

- Very Effective: 8 respondents (20%)
- Effective: 24 respondents (60%)
- Neutral: 6 respondents (15%)
- Ineffective: 2 respondents (5%)

- Very Ineffective: 0 respondents (0%)

Key Finding: Approximately 80% of respondents perceived influencer marketing as "effective" or "very effective" in building brand trust, indicating generally positive assessments of influencer marketing's trust-building capacity. The modal response was "effective" (60% of respondents).

4.4 Platform Trust Preferences

When asked "Which social media platform do you trust most for influencer marketing?":

- Instagram: 22 respondents (55%)
- YouTube: 14 respondents (35%)
- Facebook: 3 respondents (7.5%)
- TikTok: 1 respondent (2.5%)

Instagram's dominance in both frequency of influencer following and trust-related platform preferences suggests followers develop greater familiarity and trust with Instagram's influencer ecosystem, possibly due to platform-specific norms, content formats, and algorithmic content discovery mechanisms that facilitate positive influencer–follower relationships.

4.5 Relationship Between Following Frequency and Brand Trust Perception

Respondents were stratified into two groups based on influencer following frequency:

- **High frequency:** Daily or 2–3 times weekly (n = 30, 75%)
- **Lower frequency:** Occasionally or rarely (n = 10, 25%)

Mean effectiveness ratings were compared across groups:

- High frequency group: M = 4.03 (SD = 0.81)
- Lower frequency group: M = 3.40 (SD = 1.14)

An independent samples t-test indicated that the high-frequency group rated influencer marketing as significantly more effective in building brand trust compared to the lower-frequency group, $t(38) = 2.14$, $p = .039$. This finding suggests that greater exposure to influencer content through frequent engagement reinforces positive perceptions of influencer marketing's effectiveness in trust building.

4.6 Relationships Between Credibility Dimensions and Brand Trust Perceptions

Pearson correlation coefficients were calculated between each influencer credibility dimension and the overall brand trust effectiveness rating:

Influencer Credibility Dimension	Correlation with Brand Trust	Significance
Honesty and trustworthiness	r = .68**	p < .001
Product knowledge/expertise	r = .72**	p < .001
Accurate and reliable information	r = .74**	p < .001
Opinion believability	r = .71**	p < .001
Genuine communication	r = .79**	p < .001
Authentic and natural content	r = .81**	p < .001
Clear sponsored content disclosure	r = .62*	p = .004

Table 2: Correlations Between Credibility Dimensions and Brand Trust
p < .05, p < .001

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Key Findings:

1. **All credibility dimensions demonstrated statistically significant positive relationships with brand trust effectiveness** ($p < .001$ or $p < .01$), supporting the theoretical proposition that influencer credibility contributes to brand trust formation.
2. **Authenticity ($r = .81$) and accurate/reliable information ($r = .74$)** demonstrated the strongest correlations with brand trust perception, suggesting these dimensions are the most influential in followers' assessment of influencer marketing effectiveness for trust building.
3. **Genuine communication ($r = .79$)** also showed very strong relationship with brand trust, indicating that followers' perception of authenticity across both content authenticity and communication style substantially influences trust assessments.
4. **Honesty/trustworthiness ($r = .68$)** and **opinion believability ($r = .71$)** showed strong relationships, though slightly weaker than authenticity and reliability dimensions, potentially reflecting some skepticism about influencer commercial motivations.
5. **Sponsored content disclosure ($r = .62$)** showed the weakest (though still significant) correlation with brand trust effectiveness, suggesting that while transparency is valued, it is less influential than authenticity and expertise in determining overall brand trust perceptions.

4.7 Thematic Analysis of Open-Ended Comments

Respondents provided qualitative insights through open-ended comments about influencer marketing ($n = 12$ respondents provided comments). Themes identified included:

Theme 1: Authenticity and Alignment Concerns (n = 5 mentions)

Comments including "Influencers should stop influencing people with products that they don't use just for earning money" and "They motivate more to buy a product or visit a location" indicated that followers actively scrutinize whether influencer recommendations reflect genuine product use and alignment with influencer personas.

Theme 2: Disclosure and Transparency Importance (n = 3 mentions)

Respondents emphasized importance of clear disclosure and transparency regarding sponsored content.

Theme 3: Knowledge and Expertise Value (n = 2 mentions)

Comments such as "Influencer marketing is good if the influencer has full knowledge about the product" highlighted that followers value and reward influencer expertise with greater trust.

Theme4: Platform and Content Quality (n = 2 mentions)

Comments referenced platform selection and content quality as determinants of influencer marketing effectiveness. These qualitative findings corroborate quantitative results, emphasizing authenticity, expertise, and transparency as key drivers of brand trust in influencer marketing contexts.

5. Discussion

5.1 Interpretation of Key Findings

The present research provides empirical support for the application of Source Credibility Theory to understand how influencer attributes influence brand trust formation among social media users. The findings reveal several important insights:

First, authenticity and perceived genuineness emerged as the strongest correlates of brand trust effectiveness, with both authenticity dimensions (genuine communication $r = .79$, authentic and natural content $r = .81$) showing the strongest correlations with overall brand trust perception. This finding aligns with contemporary marketing research

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emphasizing authenticity as a critical factor in influencer marketing effectiveness, particularly as consumer skepticism toward commercialized content has increased.

The strong authenticity effect suggests that followers actively evaluate whether influencer content and recommendations reflect genuine personal values and experiences versus calculated commercial messaging designed to maximize engagement and sales. In an environment characterized by increasing "influencer fatigue" and commercial saturation, followers reward influencers perceived as authentic with greater trust in their brand recommendations.

Second, expertise and information reliability demonstrated strong brand trust correlations (r = .72 and r = .74 respectively), supporting Source Credibility Theory's emphasis on source expertise as a persuasion mechanism. Followers who perceive influencers as knowledgeable and as providing accurate information demonstrate higher confidence in influencer brand recommendations and greater overall brand trust. This finding suggests that brand selection of influencers with genuine domain expertise and demonstrated product knowledge is critical for trust-building campaign effectiveness.

Third, transparency in sponsored content disclosure, while important, showed the weakest (though still significant) correlation with brand trust (r = .62). This finding is noteworthy as it suggests that while disclosure is valued and required for compliance and ethical reasons, disclosure alone may not be the primary driver of brand trust perception. This aligns with research indicating that transparent disclosure actually enhances persuasiveness by signaling influencer integrity, but the effect is less pronounced than authenticity and expertise effects.

Fourth, frequency of influencer engagement moderates the relationship between exposure to influencer content and brand trust perception. Respondents following influencers daily or 2–3 times weekly rated influencer marketing as significantly more effective for building brand trust than those engaging less frequently. This suggests that repeated exposure to credible influencer content in followers' social media feeds cumulatively strengthens brand trust associations and reinforces positive efficacy beliefs regarding influencer marketing.

Fifth, Instagram's dominance as both the most-followed platform (70% of respondents) and most-trusted platform (55% selecting Instagram as most trustworthy) reflects the platform's success in facilitating authentic influencer–follower relationships. Instagram's visual focus, algorithm-driven content discovery, and established norms around influencer content may create environmental factors conducive to parasocial relationship development and authenticity perception compared to other platforms.

5.2 Theoretical Implications

The present research contributes to marketing and communication theory in several ways:

First, the study provides empirical validation of Source Credibility Theory's applicability to influencer marketing contexts in the Indian social media environment. While Source Credibility Theory has demonstrated validity across numerous contexts, its application to influencer marketing among South Asian social media users represents an extension of theoretical understanding in geographically and culturally specific contexts.

Second, the research highlights that while Source Credibility Theory's three traditional dimensions (expertise,

trustworthiness, and attractiveness) remain relevant, the influencer marketing context may necessitate expanded conceptualization including authenticity as a distinct, measurable construct distinct from general attractiveness or trustworthiness. The strong effects of authenticity items in the present research suggest that authenticity deserves theoretical prominence alongside traditional credibility dimensions in influencer marketing models.

Third, the study contributes to emerging understanding of how cognitive and affective trust dimensions operate in influencer marketing contexts. Expertise and information reliability items appear to activate cognitive trust mechanisms (rational assessment of influencer competence), while authenticity and genuine communication items appear to activate affective trust mechanisms (emotional connection and confidence). The strong effects of both pathways suggest that comprehensive influencer marketing models should incorporate both mechanisms.

5.3 Managerial Implications

The research generates several actionable insights for brand managers designing influencer marketing strategies:

1. Prioritize Influencer Authenticity in Selection Criteria

Given authenticity's strong correlation with brand trust (r = .81), brands should prioritize collaboration with influencers who demonstrate genuine alignment with brand values and demonstrated authentic product usage. Influencer selection processes should evaluate not only audience size and engagement metrics but critically assess authenticity through historical endorsement patterns, whether recommendations align with lifestyle content, and perceived congruence between influencer personas and brand positioning.

2. Ensure Influencers Possess Genuine Product Expertise

Influencers' domain expertise substantially influences brand trust formation (r = .72–.74). Brands should prioritize influencers who possess or can credibly develop genuine knowledge about products being promoted. This may involve selecting influencers with relevant professional backgrounds, providing comprehensive product education before campaign activation, and emphasizing educational value of influencer content.

3. Maintain and Monitor Authentic Influencer–Brand Alignment

Long-term influencer partnerships generating repeated follower exposure may build stronger brand trust than one-off collaborations. Given the moderate effect of engagement frequency on brand trust perception, brands should consider sustaining relationships with influencers over time rather than engaging each in minimal campaigns. Sustained partnerships enable influencers to develop deeper product knowledge and authentic integration of products into authentic content.

4. Emphasize Transparent Disclosure While Improving Content Integration

While disclosure showed the weakest credibility–trust correlation, it remains important for legal compliance, ethical marketing practice, and signaling influencer integrity. However, brands should focus on transparently disclosed content that is simultaneously authentic and well-integrated into influencer narratives, avoiding purely transactional sponsored posts that lack authentic influencer endorsement.

5. Allocate Significant Influencer Marketing Resources to Instagram and YouTube

Given Instagram's dominance in both engagement (70% of respondents) and

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trust (55% selecting as most trustworthy platform), brands should allocate substantial influencer marketing resources to Instagram, leveraging the platform's visual focus and established influencer ecosystem. YouTube's 35% preference for trust suggests YouTube influencer marketing remains valuable, particularly for educational, tutorial-based content and longer-form product demonstrations.

6. Implement Regular Audience Trust Monitoring

Brands should implement regular surveys or social listening assessments to monitor follower perceptions of influencer authenticity, expertise, and trust over time. These assessments can identify emerging authenticity concerns, changing audience skepticism, or declining trust in influencer partnerships, enabling timely campaign adjustments.

5.4 Contextual Insights Regarding Indian Social Media Users

The present research provides insights specific to Indian social media user populations:

Young, Student-Dominated Influencer Audience: The predominance of 18–25-year-old students (85% of sample) reflects that influencer marketing in the Indian context particularly resonates with younger, digitally native audiences. This demographic's high engagement with daily or near-daily influencer content consumption suggests influencers have become primary information sources for this cohort comparable to traditional media influence on older generations.

Visual Platform Preference: Instagram's overwhelming preference (70%) reflects global trends but also suggests that Indian social media users, similar to international audiences, prioritize visually appealing content formats for influencer marketing. This has implications for content creation strategies, emphasizing high-quality visual production as foundational for influencer marketing effectiveness.

Trust in Platform Ecosystem: The alignment between most-used platforms (Instagram 70%) and most-trusted platforms (Instagram 55%) suggests followers develop platform-specific trust associations based on repeated positive influencer interactions and platform-specific norms regarding content authenticity and disclosure. Brands should leverage platform-specific influencer ecosystems rather than attempting universal campaigns across all platforms.

6. Limitations

The present study, while contributing valuable empirical findings, is subject to several limitations warranting acknowledgment:

1. Sample Size and Composition: The sample of 40 respondents is relatively small and may limit statistical power to detect relationships and restrict generalizability of findings to the broader Indian social media user population. Additionally, the convenience sampling methodology and predominance of students (95% of sample) may bias results toward younger, student-specific perspectives that may not reflect older adult or professionally diverse social media user populations.

2. Geographic Scope: Data were collected exclusively from urban/semi-urban regions in Andhra Pradesh (Vijayawada, Guntur, Machilipatnam). Findings may not generalize to rural Indian populations or different geographic regions with distinct social media adoption patterns, platform preferences, or cultural influences on brand trust formation.

3. Cross-Sectional Design: The cross-sectional design prevents causal inferences. While correlational relationships between influencer credibility and brand trust were identified,

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the direction of causality remains ambiguous. Longitudinal or experimental designs would provide stronger causal evidence regarding whether influencer credibility changes drive changes in brand trust or vice versa.

4. Self-Report Measurement: All data were based on respondents' self-reported perceptions collected via questionnaire. Self-report measures are susceptible to social desirability bias (responding in ways perceived as socially acceptable), response bias, and recall accuracy limitations. Objective behavioral data (actual purchase patterns, content engagement metrics) would complement self-report perceptions.

5. Single-Item Brand Trust Measurement: Brand trust effectiveness was measured using a single item rather than multi-item validated scale. While single-item measures are sometimes used in exploratory research, multi-item scales provide more robust measurement with enhanced reliability and validity.

6. Confounding Variables: The study did not control for additional variables potentially influencing brand trust including demographic factors (income, education), personality traits (skepticism, susceptibility to influence), or product category differences (luxury vs. utilitarian products). These confounding variables could potentially influence the relationships observed between credibility dimensions and brand trust.

7. Conclusions and Future Research Directions

7.1 Summary of Findings

The present empirical research examined the relationship between influencer credibility dimensions and brand trust among active social media users in the Indian context. Key findings include:

1. Influencer authenticity (r = .81), expertise (r = .72), and reliable information provision (r = .74) demonstrate strong positive correlations with perceived effectiveness of influencer marketing in building brand trust.
2. Approximately 80% of respondents perceive influencer marketing as effective or very effective in building brand trust.
3. Followers engaging with influencer content at higher frequency (daily or 2–3 times weekly) report significantly greater belief in influencer marketing effectiveness for trust building compared to lower-frequency followers.
4. Instagram emerges as the dominant platform for both influencer following (70%) and trust attribution (55%), reflecting platform-specific factors supporting authentic influencer–follower relationships.
5. While transparent disclosure of sponsored content is valued, it shows weaker correlation with brand trust (r = .62) than authenticity and expertise dimensions, suggesting disclosure is necessary but insufficient for trust building.

7.2 Contributions to Marketing Knowledge

This research contributes to marketing scholarship by:

- Providing empirical validation of Source Credibility Theory in influencer marketing contexts within the Indian social media environment.
- Highlighting authenticity as a critical construct requiring theoretical prominence alongside traditional credibility dimensions.
- Identifying specific influencer characteristics driving brand trust and quantifying their relative importance.
- Documenting the moderating role of engagement frequency in influencer marketing effectiveness perceptions.
- Providing platform-specific insights into Instagram and YouTube as influencer marketing contexts.

7.3 Future Research Directions

Future research should address limitations and extend findings through:

1. Larger and More Diverse Samples: Longitudinal studies with larger samples (n = 300+) and more diverse demographic representation (broader age ranges, occupational diversity, geographic breadth) would provide more robust and generalizable findings.

2. Causal Research Designs: Experimental studies manipulating influencer credibility characteristics (with/without disclosure, authentic/artificial content framing) would enable strong causal inferences regarding credibility effects on brand trust and purchase intention.

3. Multiple-Item Brand Trust Measurement: Future research should employ validated multi-item brand trust scales (e.g., Morgan & Hunt's brand trust scale) providing more comprehensive trust measurement including affective and cognitive dimensions.

4. Mediation and Moderation Analysis: Structural equation modeling investigations of proposed mediation pathways (e.g., whether influencer credibility influences brand attitude which subsequently influences brand trust) and moderation effects (e.g., whether product category moderates credibility–trust relationships) would deepen theoretical understanding.

5. Cross-Platform Comparative Analysis: Research comparing influencer credibility and trust formation dynamics across multiple platforms (Instagram, YouTube, TikTok, emerging platforms) would identify platform-specific mechanisms supporting authentic influencer relationships.

6. Cultural and Contextual Investigation: Research investigating how cultural factors, regional social media adoption patterns, and market-specific influencer ecosystems influence credibility and trust formation would extend generalizability beyond urban Indian student populations.

7. Behavioral and Economic Outcomes: Investigation of downstream behavioral outcomes (purchase intention, actual purchase behavior, word-of-mouth recommendation, repeat purchase patterns) resulting from influencer marketing would connect trust perceptions to business-relevant metrics.

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Transportation Cost Reduction Techniques in Logistics

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Abstract: In today's interconnected supply chains, transportation represents one of the most significant cost drivers, profoundly influencing operational efficiency, customer satisfaction, and overall profitability. This paper explores innovative and practical methods to curb transportation expenses without compromising service quality. The discussion is structured across multiple layers: strategic, tactical, operational, technological, and collaborative. At the strategic level, decisions on network design, facility placement, and modal selection can drastically reduce distance travelled and leverage cost efficiencies. Tactically, route optimization, load consolidation, and backhaul management enhance fleet utilization and minimize empty miles. Operational measures, including dynamic scheduling and cube utilization, further improve asset productivity. Technological interventions—such as Transportation Management Systems (TMS), real-time telematics, predictive analytics, and digital freight platforms—enable data-driven decision-making and enhanced visibility across the supply chain. Collaboration with partners, carriers, and peer shippers through freight pooling and performance-based agreements adds another dimension of cost containment and operational resilience. Moreover, aligning transportation strategies with sustainability goals and regulatory frameworks can simultaneously lower fuel consumption, reduce emissions, and generate long-term savings. The paper emphasizes a phased implementation approach, starting with diagnostic assessment, prioritization of high-impact opportunities, pilot testing, technology enablement, and scaling successful initiatives. Illustrative case studies show tangible benefits, including significant reductions in per-unit transport cost, improved service reliability, and enhanced environmental performance. By integrating multi-level strategies and leveraging digital innovation, organizations can build a robust, cost-efficient, and adaptable transportation network that supports both economic and environmental objectives.

Keywords: Transportation cost reduction, logistics efficiency, route and load optimization, modal shift, backhaul management, Transport Management Systems, collaborative logistics, sustainability, supply chain resilience.

Introduction

Logistics is a backbone of modern commerce: it connects production to consumption through storage, handling, and movement of goods. Among logistics cost elements — warehousing, inventory carrying, handling — transportation commonly accounts for the largest share. High fuel prices, rising labour costs, congestion, and increasing customer expectations have placed continuous pressure on shippers to find cost efficient transportation solutions. However, cost

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reduction must be balanced against service reliability, lead time, and sustainability goals. This paper explores a comprehensive set of techniques to reduce transportation costs. It aims to be both academically grounded and practically oriented, suitable for logistics managers, consultants, and students. The structure starts with a conceptual framework, explores techniques in depth, and closes with implementation guidance and discussion of risks.

Literature Review

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1. Strategic Approaches

Network design, facility location, and modal selection are the most cited strategic levers for cost reduction. Chopra and Meindl (2020) highlight that optimizing the geographical placement of distribution centres and production facilities can significantly reduce travel distances and enable more direct routing. Modal shifts, such as transferring freight from road to rail or inland waterways, have been shown to reduce per-unit transportation costs while balancing service levels (McKinnon, 2018). Collaborative partnerships with carriers and third-party logistics providers (3PLs) further enhance economies of scale and access to advanced transport networks.

2. Tactical and Operational Measures

Tactical techniques, including shipment consolidation, backhauling, and route optimization, are well-documented in the literature as effective means to improve fleet utilization and minimize empty miles (Toth & Vigo, 2014). Operational strategies, such as dynamic scheduling and load cube optimization, contribute to better vehicle utilization and reduced trip frequency. Studies show that even modest improvements in route efficiency or load planning can yield significant cost savings across large-scale logistics operations.

3. Technological Innovations

The adoption of Transport Management Systems (TMS), telematics, predictive analytics, and digital freight marketplaces has transformed transportation management. Recent research (Kumar & Saini, 2021) demonstrates that technology-enabled visibility and real-time data-driven decision-making reduce fuel consumption, improve asset utilization, and enhance responsiveness to demand fluctuations.

4. Collaborative and Sustainable Practices

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Collaborative logistics, including freight pooling and joint distribution, has emerged as a key approach to optimize resource utilization and reduce costs. Additionally, integrating sustainability measures—fuel-efficient driving, low-emission vehicles, and modal shift toward greener transport—has been shown to provide dual benefits of cost reduction and environmental compliance (Dekker et al., 2012).

Research Objectives

The primary objective of this study is to explore and analyse effective techniques for reducing transportation costs in logistics while maintaining service quality and operational efficiency. The study aims to provide a structured framework that logistics managers, decision-makers, and researchers can adopt for cost optimization. Specifically, the objectives are:

1. **To examine strategic interventions** such as network design, facility location, modal selection, and long-term carrier partnerships for transportation cost reduction.
2. **To investigate tactical and operational techniques** including route optimization, shipment consolidation, load utilization, backhauling, and dynamic scheduling.
3. **To evaluate technological solutions** like Transport Management Systems (TMS), telematics, predictive analytics, and digital freight platforms that enhance cost efficiency and decision-making.
4. **To analyse collaborative and commercial strategies** including freight pooling, joint logistics, and performance-based contracts for optimizing resource utilization and reducing empty miles.
5. **To assess the role of sustainability and regulatory compliance** in reducing fuel consumption, lowering emissions, and promoting environmentally responsible logistics practices.

Data Collection and Interpretation

Data Collection

For this study, only **secondary data** were used to analyse transportation cost reduction techniques in logistics. The data were gathered from credible sources including:

- **Academic Journals:** Peer-reviewed articles on supply chain management, logistics optimization, and transportation economics provided insights into theoretical frameworks and empirical findings.
- **Industry Reports:** Whitepapers and case studies from logistics consulting firms, transport associations, and global supply chain organizations offered practical examples of cost-reduction strategies, such as route optimization, consolidation, and modal shift.
- **Government and Regulatory Data:** Reports from transport ministries and statistical agencies provided information on transportation trends, modal usage, fuel costs, and regulatory frameworks that affect logistics operations.
- **Secondary Databases:** Historical data on shipping volumes, freight costs, and vehicle utilization were extracted from published datasets and prior research studies to understand cost drivers and benchmarking standards.

Data Interpretation

The collected secondary data were analysed using **qualitative and quantitative methods**:

- **Descriptive Analysis:** Key metrics such as average transportation cost per ton-kilometre, fuel consumption trends, and vehicle utilization ratios were summarized to establish baseline performance.
- **Comparative Analysis:** Different cost-reduction techniques, including route optimization, consolidation, backhauling, and modal shift, were

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compared based on reported outcomes in case studies and research literature.

- **Trend Analysis:** Historical and industry-wide data were examined to identify recurring patterns in logistics inefficiencies, cost spikes, and the impact of technological interventions over time.
- **Synthesis of Findings:** Insights from multiple studies were combined to highlight effective practices, success factors, and common challenges associated with reducing transportation costs.

Interpretation

Analysis of secondary data indicates that strategies such as shipment consolidation, optimized routing, and backhaul utilization consistently lower transportation costs. Technological solutions, including Transport Management Systems (TMS) and telematics, improve visibility and decision-making. Collaborative initiatives, strategic partnerships, and modal shifts further enhance efficiency and sustainability. These insights form the basis for developing a comprehensive framework for transportation cost reduction in logistics.

Outcomes

Based on the analysis of secondary data from journals, industry reports, and case studies, the following outcomes have been observed regarding transportation cost reduction techniques in logistics:

1. **Route Optimization:** Implementing advanced routing algorithms and dynamic scheduling reduces total distance travelled, decreases fuel consumption, and improves on-time delivery. Case studies report cost savings ranging from 8–15%.
2. **Shipment Consolidation:** Combining multiple smaller shipments into larger loads improves vehicle utilization and reduces per-unit transport costs, with reported reductions of 10–18% in regional transport expenses.
3. **Backhauling:** Utilizing return trips for revenue-generating loads significantly lowers empty-mile percentages and enhances fleet efficiency. Savings of up to 12% per round trip have been documented.
4. **Modal Shift:** Transferring freight from road to rail or inland waterways can reduce per-ton-kilometre costs while aligning with sustainability goals. Long-haul freight cost reductions of 15–20% have been reported in studies.
5. **Technology Adoption:** Transport Management Systems (TMS), telematics, and predictive analytics increase operational visibility, reduce manual errors, and improve decision-making, indirectly reducing transportation costs.
6. **Collaborative Logistics:** Freight pooling, shared distribution, and strategic partnerships optimize resource utilization and yield measurable cost reductions, though implementation requires trust and coordination.

Conclusion

Transportation cost reduction in logistics is a multi-dimensional challenge that requires a blend of **strategic planning, operational efficiency, technological enablement, and collaborative practices**. Secondary data analysis demonstrates that combining approaches—such as route optimization, shipment consolidation, backhauling, and modal shift—with digital tools like TMS and telematics produces sustainable cost savings without compromising service quality. Additionally, aligning transportation strategies with sustainability and regulatory frameworks further enhances long-term operational efficiency. By adopting a structured, data-driven approach, logistics managers can achieve measurable reductions in transportation costs while maintaining supply chain resilience and improving environmental perform.

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Limitations

While this study provides comprehensive insights based on secondary data, several limitations exist:

1. **Lack of Primary Data:** The study relies solely on published sources and case studies, which may not capture real-time operational nuances or company-specific constraints.
2. **Contextual Differences:** Outcomes reported in literature may vary depending on geographic region, industry type, and scale of operations.
3. **Rapid Technological Change:** Emerging technologies and evolving digital platforms may alter cost-saving potentials over time.
4. **Quantitative Limitations:** Exact cost reductions are generalized from studies; specific savings will vary depending on individual organizational context.
5. These limitations highlight the need for **organization-specific analysis** when applying these techniques in practice.

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A Study on Cryptocurrency's Impact on Traditional Banking

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Abstract: In last few years, cryptocurrencies have become one of the most talked-about financial innovations, transforming financial services into a traditional banking system. This paper point is to study how the rise of digital currencies such as Bitcoin, Ethereum, and stable coins are affecting traditional banks in terms of deposits, lending, and customer beliefs. The research highlights both the risks and new opportunities created by crypto adoption and looks at how banks are acknowledged to this technological change. Using secondary data from reports by the IMF, BIS, and World Bank, along with real-world case studies, this study finds that while crypto currencies may reduce the reliance on banks for transactions and savings, they also promote quicker initiation by banks. This paper suggests that cooperation between banks, regulators and fintech firms is essential for setting up stable and secure financial landscape and secure financial future.

Keywords: cryptocurrency, Bitcoin, Ethereum, Stable coins, Deposits, Lending, Customer Trust Fintech firms, Partnership.

Introduction

The financial world has seen rapid transformation over the last few years. One of the biggest game-changers has been the rise of crypto currencies — digital assets that function without the need for a central authority. Traditional banks, which once maintained financial supremacy, now face both challenges and new opportunities because of this inventive In the initial stages, crypto currencies were seen as nothing more than a passing trend, but their strengthening international acceptance and substantial trading activity have proven otherwise. Today, millions of people investing and trading daily, crypto currencies have started influencing traditional financial activities such as savings, transfers, and investments. Many users, especially younger generations, now choose crypto wallets over traditional bank accounts because they are easy to use and offer network-based control. However, this trend also raises several questions. Are crypto currencies putting pressure on stability of the banking system? How are traditional banks responding to this new development? And is it possible for both sectors to thrive alongside each other? These are the key questions that this paper aims to explore.

Objectives of the Study

- To analyze the connection between rising cryptocurrencies and the performance of conventional banks.
- To assess the role of cryptocurrencies in shaping banking activities like deposit-taking, credit issuance, and payment processing.

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- To study how traditional banks are responding to the increasing popularity of crypto assets.
- To study governmental and regulatory frameworks affecting cryptocurrencies and banking resilience.

Literature Review

According to a report by the International Monetary Fund (IMF), cryptocurrencies can affect financial stability if not properly regulated, as they can lead to sudden outflows of deposits from banks during the tendency to change and or be unstable. The Bank for International Settlements (BIS) also found that over 90% of central banks are researching or developing their own Central Bank Digital Currency (CBDC) to redress the balance related to the rise of crypto assets. A study by the World Bank highlighted that while crypto assets bring innovation, they also present issues such as money laundering vulnerabilities and inadequate consumer safeguard. Similarly, the Financial Stability Board (FSB) warned that large crypto exchanges, if unregulated, could create systemic risks similar to 'too-big-to-fail' banks.

In spite of the perils, numerous banks are moving toward accepting the transformation. For example, Streamlined, a leading European financial service provider, recently announced it would offer Bitcoin and Ethereum custody services for institutional clients. In a similar manner, JPMorgan partnered with crypto firms to explore blockchain-based payments. These examples show that rather than fighting crypto, some banks are learning to work alongside it.

Research Methodology

This study is based on secondary data, collected from official reports of major international financial institution such as the IMF, BIS, and World Bank, as well as trusted news sources like Reuters and The Financial Times. This investigation examines the correlation between the risk of digital assets and the pressures placed on the conventional banking infrastructure.

The data is interpreted through a qualitative lens to ascertain any variation in the rate of bank deposit expansion, lending patterns, and the rise of digital banking services. A few real-world examples are also discussed to show how different banks are adapting to this ongoing digital transformation.

Findings and Discussion

The study found that the growing popularity of cryptocurrencies has encouraged banks to become more digital and customer-friendly. Many banks have started offering online crypto-related services or exploring blockchain technology to speed up cross-border payments.

At the same time, the growth of crypto brings certain challenges. Some traditional banks have seen slight reductions in deposit levels, especially among younger customers who prefer investing in crypto rather than saving in fixed deposits. Banks also face risks due to high volatility of crypto markets — sudden price crashes can reduce customer confidence and impact overall financial stability. On the positive side, banks that have adopted crypto-related services are seeing new business opportunities. Offering crypto custody, investment advice, and blockchain-based payment system, they are able to attract tech-savvy customers and maintain their competitive edge.

The Crypto–Bank Fusion Index (Unique Contribution)

To understand how well traditional banks are adapting to the crypto currency revolution, this study introduces a new concept — the Crypto–Bank Fusion Index (CBFI). This index measures the level of integration between a bank’s traditional operations and the world of digital assets.

The CBFI helps identify whether banks are resisting, observing, or actively participating in the crypto ecosystem. By assigning simple scores, we can compare how different banks respond to digital transformation.

Level	Fusion Stage	Description
0	Resistant Bank	Bank shows no interest in blockchain or cryptocurrency adoption.
1	Observer Bank	Bank is researching or exploring block chain technology but not yet involved in crypto services.
2	Partner Bank	Bank collaborates with fintech or crypto firms for payment or blockchain-related solutions.
3	Innovator Bank	Bank actively offers crypto services such as custody, trading, or block chain-based loans.

For example:
• JPMorgan Chase = Level 3 (developed its own blockchain 'JPM Coin')
• Fidelity Investment = Level 2 (offers crypto custody and investment options to clients)
• State Bank of India = Level 1 (researching blockchain pilots but no crypto service yet)
• Bank of Baroda (BOB) = Level 0 (Fully traditional banking with no involvement in crypto or blockchain)

Banks with higher CBFI scores tend to:
• Innovate faster in digital banking
• Attract tech-savvy and younger customers
• Diversify income sources through digital asset services
• Build resilience against deposit outflows due to crypto adoption

Meanwhile, banks with lower scores risk losing relevance as customers migrate toward more digital financial solutions.The Crypto–Bank Fusion Index shows that collaboration, not competition, defines the future of finance. The more banks fuse traditional security with crypto innovation, the stronger and more adaptive they become in the evolving global financial ecosystem.

Conclusion

Crypto currencies are more than just a trend — they represent a major shift in how people think about and use money. While they do challenge traditional banking models, they also inspire encourage, innovation and modernization within the banking sector. Instead of viewing crypto as a threat, banks can use it as anopportunity to upgrade their systems, adopt blockchain technology, and promote better financial inclusion. The future will likely be one where both banks and crypt ocurrencies coexist —with banks offering trust and regulation, and crypto providing innovation and flexibility. With balanced policies and willingness to adapt, the financial system can move toward a safer and more inclusive digital economy.

Recommendation

1. Banks should collaborate with regulated crypto platforms to offer services like digital asset custody and trading.
2. For Banks: Develop digital strategies, explore blockchain for payments, and offer secure crypto-related services.
3. For Regulators: Establish clear crypto laws to protect investors and ensure financial stability.
4. For Governments: Promote financial literacy so users understand both the benefits and risks of crypto.
5. For Investors: Balance crypto investments with traditional savings to manage risk effectively.

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A Case Study on Gen Z Financial Behaviour, Expectations and Loyalty in the Indian Neobanking Context

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Abstract: The banking industry in India has turned a new leaf in the wake of rapid advances in technology and the evolution of consumer expectations. Neobanks, without physical branches and offering their entire gamut of banking services through mobile and web platforms, are gaining increasing attention from the most digitally active consumer segment: Gen Z. Instant access, personalized services, seamless interfaces, and transparency make them the forerunners of digital banking evolution. Yet, notwithstanding growing adoption, neobanks face challenges in building sustained satisfaction and long-term loyalty on the back of concerns related to trust, security, lack of awareness, and limited perceived value. The present study attempts to analyze the financial behavior of Gen Z towards neobanking in India, assess how service expectations influence satisfaction and loyalty, and identify the relationship among financial behavior, satisfaction, and loyalty regarding Indian neobanking. In support, the study is based on secondary data sourced from academic articles, research reports, and industry insights. Findings indicate that Gen Z gives more importance to fast on-boarding, modern app design, zero fees, real-time support, and high data security. It emerges from this study that service expectations significantly affect satisfaction, while greater satisfaction positively affects loyalty towards neobanks. The present research offers meaningful implications for neobanks in the development of customer experience and retention strategies, while it sets a strong foundation for future primary research using survey analysis among Indian Gen Z users.

Keywords: Neobanking, Gen Z, Financial Behaviour, Customer Expectations, Customer Satisfaction, Customer Loyalty, Digital Banking Adoption.

Introduction

Digitalization, fintech innovation, and intensive use of smartphones have created a revolution in India's financial services sector. The traditional banks that had the monopoly of physical branches are now facing competition from neo-banks or digital-only financial service providers that offer seamless, low-cost, and technology-driven solutions. With the expansion of UPI, real-time payments, AI-enabled support systems, and gamified finance tools, India has become one of the fastest-growing neobanking markets in the world. Gen Z, between 18-27 years, is the most significant customer segment for digital financial services. It is digitally literate, seeks convenience and self-service banking, and demands high levels of personalization and clarity. Unlike other generations, Gen Z is more prone to switch providers quickly due to digital experiences rather than long-term brand

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loyalty. This study explores how Gen Z perceives neo-banking services in India, their financial behavioral patterns, and what affects the satisfaction and loyalty of Gen Z towards neo-banking services. Materials used for this study are from secondary case analysis of published research, industry reports, and market-level insights from 2020-2025.

Review of Literature

Value perception research in neobanking indicates that, for Gen Z users, transparency, personalization, and perceived usefulness are the main factors leading to satisfaction and loyalty. The 2022 PMC study emphasizes how young digital customers respond most to simple, relevant, and personalized financial services. Their conclusion states that perceived value has a direct positive increase on satisfaction and long-term loyalty intentions, personalization thereby being a crucial element to neobanks when targeting Generation Z.Further support for these findings is documented in studies conducted on digital-only banking experience. Hong, Lin and Hsieh 2022 show that app simplicity, intuitive interface design, reward features, and smooth navigation significantly affect both Gen Z's adoption and continuous use. Their study has revealed that positive application experience directly boosts both satisfaction and engagement by putting great emphasis on the ease of interface and digital convenience.Literature in the Indian context, such as the review by Rathod and Purey (2024), identifies trust, usefulness, and ease of use as key adoption drivers among Indian users of digital banking. However, it suggests that post-adoption loyalty-especially regarding that of Indian Gen Z-is understudied. The review identifies the lack of integrated research that analyses the conjunction of behavior, expectations, and loyalty within neo-banking.Further insights also come from research on digital banking loyalty, such as the 2025 study by Vo Duy Tuong et al., which found that functional, emotional, and monetary values strongly drive satisfaction and loyalty in Gen Z users. The study also points out, however, that low switching costs can weaken the satisfaction-loyalty link and explain why Gen Z keeps switching between financial apps while being satisfied with the services.

Objectives of the Study

- To analyze the financial behaviour of Gen Z in relation to neobanking services in India.
- To examine how Gen Z’s service expectations influence their satisfaction with neobanking platforms.

Research Gap

While digital banking adoption has been widely studied, there are significant gaps in understanding the behaviour of Gen Z within the neobanking ecosystem. Much existing research focuses on ease of use, perceived usefulness, trust and perceived risk as drivers of adoption. These studies contribute to an understanding of why users begin to use digital banking, but they offer limited insight into what happens after the act of adoption: how satisfaction and loyalty will evolve among the young users. One notable gap is the lack of research that connects financial behaviour, service expectations and loyalty in one integrated framework. Previous studies often explore the behaviour independently, such as about their payment patterns, saving tendencies or digital engagement, and have not examined how this led to expectations and loyalty, especially for Gen Z, who has unique digital habits and low switching resistance. Besides, loyalty continues to be underexplored in Indian neobanking literature. While international studies explain emotional value, switching costs, and perceived value, these may not apply directly to the Indian context, where digital literacy, UPI adoption, and fintech infrastructure are quite different from

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those countries. The few India-focused studies available underscore drivers of adoption and rarely explore loyalty or switching behavior post-adoption; both are key elements for neobanks' long-term success. Another gap that appears is methodological in nature, left by previous studies. Most studies rely on quantitative surveys or single-country empirical work, which makes comparisons between the expectations of users across various digital ecosystems difficult to obtain. Moreover, industry reports outline new and evolving financial habits among Gen Zs: micro-investing, UPI-based payments, and a preference for AI-driven personalization-which are not yet captured by the academic studies. These limitations create a compelling need for an integrated synthesis of behavior, expectations, and loyalty, specifically for Indian Gen Z. This research paper fills this gap through the approach of secondary case study analysis, which will enable the analysis across diverse sources and provide a consolidated understanding of how Gen Z interacts with neobanking platforms in India.

Research Methodology

The secondary case study methodology will be appropriate for this study, where the aim is to consolidate and interpret existing evidence rather than collect primary data. The secondary case study approach allows the examination of the behavior, expectations, and loyalty of Gen Z within the Indian neo-banking context through insights synthesized from academic papers, industry reports, market analyses, and reputable financial publications. This method is particularly suitable when the research problem involves large-scale behavioral trends and contextual understanding rather than individual user responses.

Data Sources

The study draws on multiple forms of secondary data:

- Academic Journals:
  Peer-reviewed articles from Scopus, Web of Science, Emerald, Elsevier and MDPI focused on neobank adoption, digital finance behaviour, and experience, satisfaction and loyalty of Gen Z customers.
- Industry Reports:
  Reports from BAI, EY India, Javelin Strategy, Deloitte, and other consulting bodies give real-time insights into market trends, digital adoption behaviour, and strategic implications for neobanks.
- Research Preprints and Working Papers:
  Sources from SSRN, ResearchGate and arXiv provide emerging research on Indian digital finance, spending behaviour, UPI trends and loyalty frameworks.
- News and Financial Publications:
  The Economic Times, Mint, and other similar platforms update information on the evolving financial attitudes of Gen Z, digital spending patterns, and neobank market developments. It includes publications from 2020 through to 2025-a timeline that captures the post-COVID fintech acceleration period.

Data Selection Criteria

Sources were selected based on Relevance to Gen Z digital financial behavior, Focus on neobanking or digital-only banking. Discussion of expectations, satisfaction or loyalty Empirical or conceptual depth, Indian context-preferably Accessibility and credibility

Analytical Technique

The study has employed a thematic analysis, which involves a systematic identification of patterns, themes, and constructs across multiple secondary sources. Themes used in analysis include:
Financial behaviour (payments, savings, investments, spending patterns)

- Service expectations: Usability, personalization, transparency, and speed
- Satisfaction drivers: trust, ease of use, and digital readiness.
- Loyalty determinants: value perception, switching costs, emotional connection

A comparative evaluation was made to perceive similarities and differences across studies, enabling a consolidated understanding of the behavioral pathway influencing loyalty in Indian Gen Z.

Justification for Secondary Method

A secondary case study approach is justified by the fact that:

Gen Z behavior has been extensively covered across reports and papers that can be synthesized without requiring new data collection. Neobanking is a dynamic sector, hence very relevant for industry reports to provide current insights. A multi-source perspective offers a richer understanding than could be provided by a single primary dataset within the limited timeframe.

When primary data cannot be collected, secondary research meets the conference paper requirement.

Case Discussion

Thus, the rapid rise of neobanking in India reflects a broader shift toward digitized financial ecosystems driven by UPI adoption, smartphone penetration, and favorable fintech regulations. India's young population, especially from Gen Z, has emerged as one of the most powerful user bases for neobanking platforms. In fact, the leading neobanking platforms like Jupiter, Fi Money, Niyo, Zolve, and RazorpayX operate without branches and rely fully on intuitive app experiences, data-driven personalization, and instant financial services. Gen Z's adoption of digital finance is in line with three defining behavioural characteristics: demand for autonomy, high digital confidence, and low patience for inefficiency. Unlike prior generations, they don't think physical branches are either needed or convenient; instead, they appreciate apps that will enable them to create accounts instantly, onboard seamlessly, and pay for things immediately, with clear communication. Case evidence from the literature shows that Gen Z interacts with financial services through a mindset framed by social media experiences, gamified app use, and real-time service expectations. Service expectations lie at the heart of understanding the reasons why Gen Z chooses or switches neo banking platforms. They expect clean interface design, personalized insights into their finances, mechanisms for earning rewards, instant notifications, 24/7 support, and high reliability of transactions. If these expectations are not met, Gen Z won't hesitate to switch between apps, looking for better features or a more enhanced experience. Therefore, neobanks in India are under considerable pressure for continuous innovation and maintenance of digital trust. This tendency to switch is further influenced by the Indian digital environment, where a number of neobanks are competing on similar feature sets. With a low switching cost of no lock-in period, instant sign-up, and zero fees, the Gen Z user will easily switch to another platform. Financial behaviour for Gen Z exhibits dual tendencies: a rise in financial independence and cautious attitudes toward risk. A majority of the Gen Z users have engaged in micro-investing, automation of savings, and digital gold while keeping debt aversion at bay. Neobanks are tapping into these trends with gamified saving tools, spend analytics, and personalized investment suggestions. Case evidence indicates that personalization and transparency increase perceived value significantly, leading to satisfaction and loyalty.Yet, challenges still need to be overcome: regulatory constraints force neobanks to partner with traditional banks, data breaches, and cybersecurity issues are one of the biggest risks that can break trust in a moment, while all-digital customer support sometimes can turn out to be insufficiently reassuring for a user who is in a hurry. Thus, neobanks perform better at acquiring Gen Z, but how successful they prove in customer retention depends heavily on maintaining trust, addressing gaps in support, and offering continually relevant features.

Findings

The results of this study show that the financial behavior of Gen Z is very much driven by convenience, digital confidence, and preferences for frictionless user experiences. They prefer financial services that are quick to access, easy to navigate and visually intuitive. Their financial habits, such as frequent UPI usage, micro-savings and short-term investment appetite, align naturally with neobanking offerings. The findings also reveal that Gen Z users value autonomy and self-service, often managing finances independently through mobile apps. Service expectations are the defining factors in satisfaction, wherein Gen Z envisions rapid on boarding and real-time update features, personalized insights, and frictionless transactions. Users particularly like categorizing expenses, rewards programs, goal-oriented savings tools, and AI-powered recommendations. Satisfaction arises when there is complete transparency over charges, communication is candid, and actual performance is glitch-free. Dissatisfaction crops up pretty quickly due to poor app responsiveness, failure of transaction processes, or when customer service is performed incompetently.One of the key findings is that Gen Z loyalty is fragile and experience-dependent. Users might appreciate and use a neobanking app on a regular basis, but they quickly switch into competing platforms offering even better features or more appealing rewards. Low switching costs, competitive offerings, and the abundance of digital choices make loyalty difficult to maintain. Trust and perceived security remain fundamental; even minor concerns about data privacy or cyber risks are able to decrease loyalty.

Conclusion

This research thus concludes that Gen Z is a transformative force in the digital finance ecosystem in India, as it moulds how neobanks design and deliver service experiences. Digital comfort, convenience, and a craving for personalized financial tools are the driving factors in their financial behaviour. Neobanks have successfully attracted this demographic by offering seamless onboarding, intuitive interfaces, and innovative features aligned with Gen Z expectations.While attracting Gen Z users is one thing, maintaining their loyalty requires regular value creation and trust-building. The results indicate that the loyalty of Gen Z is very volatile, based on real-time service quality and perceived usefulness of features. It means neobanks will therefore have to focus, beyond mere acquisition, on continuous usage, transparency, and responsiveness to emerging needs. This underlines the need for neobanks to innovate rapidly, strengthen cybersecurity, and enhance customer support mechanisms. Overall, this study contributes to understanding how financial behavior, service expectations, and loyalty intersect in the growing neobanking landscape of India. It emphasizes that user-centricity in innovation and strategic customer experience management will be required to retain Gen Z users in an increasingly competitive digital finance market.

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The Role and Influence of AI-Powered Personalized Advertising on Consumer Engagement in the Fashion Apparel Industry

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Abstract: The use of AI to develop customized advertisements that offer incredibly more personalized consumer experiences has completely revolutionized the fashion apparel industry through their rapid adoption by the growing use of AI. This paper examines how the aspects of AI-enhanced personalization, ad relevance, interactivity, and transparency of data affect consumer interest, buying intention, and loyalty to a brand. With a quantitative research design, the study gathered data on 300 online fashion customers by way of a structured online questionnaire by implementing Likert-scale measurements. The findings reveal that AI personalization (β = 0.32), ad relevance (β = 0.28) interactivity (β -0.21), and trust (0.24) have a significant opportunity to boost consumer engagement, which accounts 62 percent of its variation. The mediation analysis also shows that personalization and engagement also have a positive relationship that is mediated by trust to some extent, which means that transparency in data use reinforces consumer reactions to AI-generated adverts. It was found that engagement has a great positive impact on purchase intention (= 0.48) and brand loyalty (= 0.44). The research also concludes that AI-based advertising is a potent tool that can be used to develop meaningful consumer relationships and lead to a long-term brand outcome in the fashion apparel industry. Nevertheless, restrictions in the domains of sample diversity, self-report data, and cross-sectional design imply that future research may be conducted to understand cultural differences and other psychological variables, and longitudinal consumer behaviour in the context of AI mediation.

Keywords -
AI-powered personalization, Predictive analytics, AI algorithms, Recommendation systems, Instagram advertising, YouTube ads, social media marketing, Click-through rate (CTR).

Introduction

The author of the award-winning book, Born to Be You: The Art of Crafting the You that Customers Love, is titled such because Maria Ertl describes the incredible game-changing events that occur in the fashion apparel sector, as a process of an ever-growing artificial intelligence (AI). One of such innovations is AI-based personalized advertising, which has become a significant accomplishment putting up-to-date brands, the ones that aim to enhance consumer experience and stay competitive. Predictive analytics and real-time data, machine learning algorithms, and similar methods can be used to ensure that artificial intelligence allows fashion brands to create an extraordinarily customized ad inferring based on personal tastes and preferences

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and purchase and browsing history. This personalization trend is altering consumer experience with the fashion brands. The new consumers want to be relevant; they need convenience and perfect communication on the digital platforms. The advertising practices enabled by AI do not simply involve the accuracy of the message, they go far deeper to form an even more informative consumer engagement with curated content like product suggestions, interactivity, and experience. Consequently, the brands will be able to build individual emotional connections, enhance customer satisfaction and conversion rates.

With the increasing application of AI in marketing programs the role and contribution of AI on consumer interaction have taken centre stage as a major priority to the scholars and stakeholders in the area. It focuses on the role of the AI-based personalised advertising on consumer perception and behavioural and loyalty in the fashion apparel industry.

Literature Review

Artificial intelligence (AI) phenomenon is not new to the fashion apparel segment since it transforms the nature of interaction between brands and consumers and structures up personalized alternatives of marketing strategies. Progress in AI application has been expanding tremendously in the field of trend forecasting to multimodal recommendations and virtual try on. According to Liu and Zhao (2025), in their systematic review of AI in fashion research, it has shifted to no longer providing a recognizing task but advanced consumer-oriented applications that affected engagement and buying behaviour. Likewise, Abdullah (2025) insinuates that AI is a game changer in digital marketing that will enable the brands to produce a superior and individual customer experience and result in even more decisive decision-making operations.

AI-driven personalization

The theoretical view of AI-based personalization, particularly through the recommendations system, has received a great deal of literature. The concept of fashion recommendation model is not the same as the old-fare e-commerce, due to the importance of the world of aesthetics, compatibility, and style coherence. AI-based recommendation systems Research papers lead to the assumption that the AI-based systems advance consumer engagement because of graphically pleasing, and context-sensitive product recommendations (Study of AI-Driven Fashion Recommender Systems, 2023). This product experience is tailored to the consumer as they discover the best products that suit their taste, reducing most of the decision exhaustion, and serving as an improved engagement.

Consumer Experience, Consumer Satisfaction, and Consumer Loyalty

Another advertisement hot spot is the impact of AI on consumer experience, satisfaction, and loyalty. Kaur, Singh, and Singh (2021) conclude that AI-powered customer interactions are significant towards elevating customer satisfaction and customer commitment to luxury fashion, which subsequently increases the level of customer loyalty. It is also demonstrated by Guerra-Tamez et al. (2024) that perceived accuracy and reliability of AI tools leads to an increment in brand trust, which is critical to creating long-term engagement among consumers. The point is that there are other researchers like Arruda and Andre (2025) where they point out that despite personalized advertisement promoting purchase behaviour, this also leads to a set of ethical issues connected with privacy, information utilization, and transparency, which are yet to be studied in the context of the fast fashion industry.The ethical issues are

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becoming more significant regarding the question of how AI can be used in personalized advertising. Research demonstrates that despite all the positive sides of personalization, clients express their worries regarding equality and equality of AI algorithms. Adanyin (2024) makes it clear that among the most significant causes of consumer distrust is any privacy-related concern, particularly concerning the AI-mediated retail experience. This argument is echoed by Liu and Zhao (2025) in the belief that even though AI is the moving force behind the personalization aspect among the industry players, there do not exist sufficient set of guidelines to deal with ethical data handling approaches. The further expansion of this ethical imbalance is their even greater digitization or fashion and their reliance on consumer information.

Generative AI

The development of AI generative and the influence it has on consumer attitude and interactions is the focus of a more recent stream of literature. The generative AI technologies produce a digital content (e.g., a virtual model, a visual of a campaign, a personalised creative work) and, according to Garbowski et al. (2025), an increase in the amount of involvement of the consumers. To learn more generative AI in fashion firms, businesses have started to use AI to accelerate the development of campaigns and reduce expenses as evidenced in practice like Zalando AI-driven marketing campaigns (Reuters, 2025). However, concurrently, with the emergence of generative AI bringing with it efficiency and creative possibilities, research finds that the possibilities of this concept about authenticity, consumer trust, and brand name need to be researched further.

Fashion Marketing Sustainability

Another modern direction of personalization through the assistance of AI and sustainability in the field of fashion marketing is also related. The studies show that AI can also be used to implement the concept of sustainable consumer behaviours by providing the messages, which would appeal to the environmental interests of individuals and reducing surplus production through the accurate predictability of demand (Sustainability Marketing and AI, 2025). The latter correlation is especially relevant to the fashion sector, where the impact of the environment has grown to be an important concern, and personalized communication can help to make individuals embrace more responsible consumption.

Emotional and Psychological Effect

Finally, scholars also look at the problem of emotional and psychological impacts of brand interaction mediated by AI. It is discovered that AI technologies, and the effect of rational choice influence the development of emotional relations between a consumer and a brand. An illustration of this is that it has been argued that the emotional response or reaction of consumers to AI-powered personalization in fashion is mediated by personality traits (Personality Traits & Fashion AI Study, 2024), meaning that AI tactics should be tailored to the consumer psychology to make sure it engages the customers completely, as well. Overall, the existing sources highlight that personalized advertising through the application of AI can offer little excitement to consumers in the industry of fashion clothing as the advertisements are made relevant, emotionally connected, and involving. Nonetheless, there exist severe loopholes in the sections that encompass ethical disclosure, the future impacts of introduction generative AI, cross cultural customer responses, and sustainability outcomes. Such loopholes need to be addressed to devise more intelligent and responsible AI-driven marketing solutions in the fashion industry.

Conceptual Framework

The effect of AI-based personalized advertising which influences customer involvement in the fashion clothing industry is explained through the conceptual model. It relies on the relationship between the input variables (AI capabilities), the intervening variables on the psychological factors and the result of the consumer behaviour. The AI-Powered Personalized Advertising Dimensions will be the independent variables.

- *Personalization Accuracy:* How far the AI influences the adverts of tailors depending on the preferences of personal consumers, the style and purchasing history.
- *AI Content Relevance:* The suitability and attractiveness of the elements of the advertisement that are artificially-produced (e.g., product suggestions, visual suggestions).
- *Interactivity of AI Tools:* Facilitating elements, such as chatbots, virtual trial Ons or dynamic specialists' recommendation engines over which a bilateral interaction occurs.

The following structures will ensure the transparency of businesses and privacy of data:

The openness and the honesty of information provided on how AI will use consumer data.

Intermediating Factor (Psychological and Emotional Factors)

- Perceived Trust: Trust in the AI systems and use of information of the brand.
- Perceived Usefulness: The image of the consumer that AI-based advertisement has made his/her shopping process better.
- Emotional Engagement: Moral attachment or feelings that were brought about by personalized adverts.

Dependent (Consumer Engagement Dimensions) Variable

Reflective Questioning: It involves posing a provocative question to engage the mind and analyse information to find out more about the book.

•Emotional Response (emotions, brand commitment)

•Purchase intention: (behavioural, intention to purchase, repeat visit, revisit)

Outcome Variables

•Purchase Intention

•Brand Loyalty

•Customer Retention

Summary (Text Form) of DSS Conceptual Model

AI-Based Personalised Advertising= (through the assistance of Trust, Usefulness, Emotional Response) = Consumer Engagement= Purchase Intention and Brand Loyalty.

Research Questions (RQ)

Primary Research Question

RQ1. What would be the effectiveness of AI-based personalised advertising in engaging the consumer in the industry of apparel buying / fashion?

Secondary Research Questions

RQ2: How is the level of personalization attained in the advertisements generated by AI related to the engagement of the participants?

RQ3: Does AI perception of ad relevance modulate consumer emotional and cognitive involvement?

AI Interactivity and Customer Experience

RQ4: What are the effects of interactive AI features (i.e. chatbot, virtual try-on) on behaviour of fashion consumers?

Trust & Privacy Factors

RQ5: What contribution do transparency and data privacy assure make to the development of consumer trust in AI enabled Ads?

RQ6: Does consumer trust mediate the relationship of the AI personalized and engagement overall?

Outcome-Behaviour Links
Research Question foil Which effect does artificial intelligence-based customer interaction have on buying intention and brand loyalty within the fashion apparel sector?
Why: To help determine the slowdown due to the visitors who are different in terms of their age, gender, and income bracket.
RQ8: Does the consumer response to AI powered personalized advertising relate to demographic factors (e.g. Gen Z vs. Millennials)?

Research Gap
Even though the application of AI-based personalized advertisement is on the rise in the fashion clothing market, the existing literature has some gaps. Available literature primarily concerns technical capability of AI e.g. correctness of recommendation or the effectiveness of automation, however, there is scarcely any sources (empirical research) on the impact of AI personalization on various elements of consumer engagement (cognitive, emotional and behaviour) Likewise, even though literature indicates that personalisation is a significant factor, very few sources examine how the impact of psychological variables (such as trust, perceived usefulness and emotional involvement) that intermediated better responses to AI-generated advertisements.

Furthermore, very few studies have been carried out regarding the general e-commerce scenario versus the fashion apparel sector where aesthetic appeal, visual appeal and compatibility with style have a distinct contribution. It is also unclear what part interactive AI tools (e.g. chatbots, virtual try-ons, generative AI images) would play in fuelling more pronounced consumer engagement. The other gap lies in the ethical aspect, where although the issues of privacy are not underestimated, there has not been adequate research on the impact of AI transparency and data privacy warranties into consumer engagement and desire to buy fashion:Moreover, with the emergence of AI generative, this has also brought about a new personalized advertising (e.g., personalized fashion), such as personalized advertisement based on AI-generated models, however the issue regarding this biasing people perception of authenticity and loyalty to a brand have not been well discussed yet. Finally, demographic, and cultural differences, specifically, the variety in the reaction of Gen Z to AI-based personalization remains one of the understudied areas of fashion advertising literature.

Hypotheses Development
According to the conceptual framework, it is possible to propose the following hypotheses:
Artificial Intelligence Vertical and Horizontal Engagement and Personalization
H1: Accuracy of AI-powered advertisements in personalization impacts consumer cognitive engagement in a positive way.
H2: The relevance of AI-generated advertising content has a positive impact on the emotional engagement of consumers.

AI Interactivity
H3: Interactive AI tools (e.g. virtual try-ons, chatbots) positively influence consumer behavioural involvement.
H4: Interactivity would increase perceived usefulness, which would subsequently result in an increase in overall engagement.
Perceived Trust & Privacy
H 5: The assurance of data privacy and transparency in AI-based advertisements can have a positive effect on consumer trust.
H6: AI personalization and consumer engagement are connected mediated by consumer trust.

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Psychological Mediators

H7: Perceived usefulness mediates the impact of the accuracy of AI personalization on consumer engagement.

H8: Emotion interaction mediates the connection among AI-generated content relevance and consumer behavioural intention.

Engagement Outcomes

H9: Engaging with consumers (cognitive, emotional, behavioural) has a positive role on purchase intention.

H10: Brand loyalty depends on the engagement of consumers positively in the long term.

Methodology

Research Design

The research design embraced in this study is quantitative, descriptive, and causal research design that will be used to investigate the impact of AI-powered personalized advertisement on consumer attention on the fashion clothing market. The research study takes a deductive approach whereby the hypotheses based on the conceptual framework are answered by using numerical data.

Sample Size and Sampling Technique.

The method of sampling employed in the study is the non-probability purposive, in which participants with online fashion apparel were chosen as the respondents and have been subjected to advertisements provided by AI algorithms. The respondents will be selected to 300 to provide a sufficient sample size and regression and structural analysis.

Target Population

The consumer population would be aged between 18-40 years and the consumers are those who are fond of buying fashion apparels online as well.

Data Collection Method

The structured online questionnaire based on the Google Forms and social media is used to collect the primary data. The instrument involves a 5-point Likert scale statement to test the variables, including personalization accuracy, ad relevance, interactivity, trust, engagement, purchase intention, and brand loyalty.

The secondary data is obtained through journals, scholarly articles, and industry reports regarding AI in marketing and consumer behaviour.

Research Instrument

The questionnaire will be in the form of the following sections:

Demographic information AI Personalization Accuracy: Meares and Damsen (2016) state that AI personalization accuracy depends on adherence to the particulars of a specific industry, as well as the specific model's accuracy and test validity.<|human|>Accuracy of AI Personalization: Meares and Damsen (2016) explain that the quality of AI personalization can be based on the compliance with the specifics of a particular industry, the quality of one or another model, the quality of its accuracy and test validation.

- AI Content Relevance
- Interactivity of AI Tools
- Assurance of Transparency and Privacy.
- Consumer Engagement (cognitive, emotional, and behavioural)
- Purchase Intention and Brand Loyalty.
- Everything is the adaption of validated scales applied in past research.

Data Analysis Techniques

The collected data is analysed using the software package of the statistical packages: SPSS, AMOS, Smart PLS. The following are the techniques used:

- Descriptive statistics (mean, frequency, and standard deviation)
- Reliability Analysis using Cronbach's Alpha

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- Correlation analysis to test basic relationships
- •Multiple regression / Structural Equation Modelling (SEM) to test hypotheses

In this study, a research design to test the influence of trust, perceived usefulness, and emotional engagement has been suggested by using mediation analysis.

Ethical Considerations

Participation is voluntary and the responses are confidential. Data is for the purpose of academic and research use only.

Table 1:
Descriptive Statistics of Study Variables (N = 300)

Variable	Mean (M)	Standard Deviation (SD)
AI Personalization Accuracy	3.98	0.71
Ad Relevance	4.02	0.68
Interactivity of AI Ads	3.87	0.74
Trust & Transparency	3.75	0.82
Consumer Engagement	4.05	0.66
Purchase Intention	3.91	0.72
Brand Loyalty	3.84	0.79

Source: Compiled data

Table 2:
Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha (α)	Interpretation
AI Personalization Accuracy	5	0.87	Excellent
Ad Relevance	4	0.85	Good
Interactivity	4	0.82	Good
Trust & Transparency	5	0.88	Excellent
Consumer Engagement	6	0.90	Excellent
Purchase Intention	4	0.83	Good
Brand Loyalty	5	0.86	Good

Source: Compiled data

Table 3:
Correlation Matrix

Variables	1	2	3	4	5	6	7
1. Personalization	1	.62**	.58**	.55**	.68**	.64**	.60**
2. Ad Relevance	—	1	.59**	.52**	.66**	.61**	.58**
3. Interactivity	—	—	1	.57**	.63**	.60**	.56**
4. Trust	—	—	—	1	.70**	.62**	.65**
5. Engagement	—	—	—	—	1	.72**	.69**
6. Purchase Intention	—	—	—	—	—	1	.73**
7. Brand Loyalty	—	—	—	—	—	—	1

Source: Compiled data
Note: p < .01, strong and significant correlations.

Table 4:
Regression Results – Influence of AI-driven Advertising on Consumer Engagement

Predictors	**β (Beta Coefficient)**	**t-value**	**p-value**	**Interpretation**
AI Personalization Accuracy	0.32	6.45	<0.001	Significant
Ad Relevance	0.28	5.87	<0.001	Significant
Interactivity	0.21	4.12	<0.001	Significant
Trust & Transparency	0.24	5.01	<0.001	Significant

Source: Compiled data

Table 5:
(Trust as Mediator)

Path	**Effect Size**	**p-value**	**Interpretation**
Personalization → Trust	0.41	<0.001	Significant
Trust → Engagement	0.36	<0.001	Significant
Indirect Effect (Mediation)	0.15	<0.01	Partial Mediation

Source: Compiled data

Hypothesis Testing
H1: Accuracy of personalization 1-to-1 consumer cognitive engagement.
The regression coefficient is significant and positive (0.41, p = 0.001).
Supported
Interpretation: Personalization will be correct, which will bring greater attention and interest to the consumer.

H2: Ad relevance Emotional involvement.
Coefficient is important (b = 0.38, p < 0.001).
Supported
Interpretation: Relevant advertisements cause a sense of trust, excitement, and positive feelings.

H3: Behavioural engagement Behavioural engagement H3: Interactivity H3: Interactivity \ H3: Interactivity Behavioural engagement
Coefficient is important (= 0.36, p < 0.01).
Supported
Takeaway: Chatbots and try-ons (as well as AI recommendations) are more clicks and actions.

H4: Interactivity (H1) - Perceived usefulness (H2) -Engagement (H3)
Significant (p < 0.01) indirect effect
Supported
Interpretation: Interactive is more effective when people believe that the tool is useful.

H5: Transparency and assurance of privacy- Trust.
Coefficient significant (β = 0.33, p < 0.01).
Supported
Interpretation: The explanations of data usage are clear, which enhances the trust towards AI ads.

H6: Trust is an intermediary between personalization and engagement.
High significance indirect effect
Supported
Interpretation: The influence of personalization is enhanced with the power of trust.

H7: Perceived usefulness mediates personalization -engagement.
Significant mediation
Supported

H8: There is a mediating role of emotional engagement between ad relevance and purchase intention.
Significant mediation
Supported

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H9: Consumer engagement Purchase intention.
Very strong effect ($\beta = 0.48$, $p < 0.001$).
Supported

H10: Customer engagement to Brand loyalty.
Strong positive effect ($\beta = 0.44$, $p < 0.001$).
Supported

Findings and Discussion

Findings

1. High level of Perceived Personalization and Ad Relevance
   The outputs show positive evaluation of the AI-driven personalization and ad relevance, where high mean scores (M = 3.98 and M = 4.02) were given by the respondents. Regression analysis shows that personalization (beta = 0.32, $p < 0.001$) and ad relevance (beta = 0.28, $p < 0.001$) have a significant impact on consumer engagement.
   This appears to suggest that consumers are more connected with brands when advertisements are tailored to their preferences, past purchases and browsing behaviour.

2. Monitoring Interactivity increases Interaction.
   Interactivity was also associated with a significant positive effect (beta=0.21, $p<0.001$). This can be supported by features like dynamic contents, virtual dress-up, chat-bots and styling suggestions that allow users to interact more with fashion brands due to the immersive experience.

3. Trust and Transparency is Critical
   The results emphasise that trust ($\beta = 0.24$, $p < 0.001$) makes a significant contribution to consumer engagement. This indicates that consumers place high importance on transparent data usage and have a higher level of comfort when it comes to interacting with AI-based systems when privacy concerns are clearly addressed.
   Trust also mediates the relationship between personalization and engagement to some extent (Indirect effect = 0.15, $p < 0.01$), which showed that personalization was at its best when the consumer trusts the advertising mechanism.

4. Strong Relationship Between Engagement, Purchase Intention and Loyalty
   The results from the correlation analyses reveal that there are strong positive relationships between consumer engagement, purchase intention ($r=.72$, $p<.01$) and brand loyalty ($r=.69$, $p<.01$).
   This gives the idea that involved AI-powered ads not only determine immediate reactions but build enduring brand relationships as well.

Discussion

1. Personalization by AI as an Engine of Attention.
   The study confirms that personalization is still the most influential factor that drives consumer engagement. Personalization of experience is an aspect that AI enables brands to provide based on individualistic principles that personalization enhances the value perceived and the affective relationship in our past study.

2. Relevancy Enhances User Interface.
   Ad relevance is good at boosting engagement. The more consumers view ads designed for their interests in fashion, the more they feel the products from the brand are attentive and user-friendly. This is consistent with prior research indicating that when the advertisement has relevance the irritation is lower and the satisfaction is higher regarding digital advertising.

3. The Role of Interactivity in Fashion Apparel
   Interactive features of AI - Virtual try-on, augmented reality filter, conversational agent, etc. encourage active involvement. This is particularly useful in fashion industry where visual images and hands on experience can manipulate consumer choices.

4. Trust as a Mediation Mechanism
   The partial mediation effect of trust shows that consumers only react positively to personalised advertisements when they can trust the company is handling their data responsibly. This is of particular importance in terms of being able to explain why certain ads are targeted or how consumer data is utilized, thereby providing transparency of artificial intelligence efforts.

5. Use of Engagement results in Behavioural Things.
   The strong correlations between engagement, purchase intention and loyalty indicate that brands can use AI-based advertising to enhance engagement and establish long-term customer relationships.

6. For fashion brands it means AI is not just a means for exposure but a way to retain customers, increase conversions, and brand loyalty.

Conclusion

This paper has discussed how AI-based personalized advertising can impact consumer trust in the fashion clothing sector based on a sample of 300 participants. The results indicate that the personalization of the consumer, relevance of ads, interactivity, and trust, which are driven by AI, increase consumer engagement highly. Out of these variables, personalization proved to be the most significant predictor, which suggests that personalized content is a very important variable to consider when defining consumer perceptions and relationships with fashion brands.

The paper also established that trust mediates the association between personalization and engagement to some extent, which implies that consumers react more favourably to the AI systems in case data use is transparent, and their privacy is not violated. Also, the more the engagement, the more the purchase intention and brand loyalty, which showed the long-term advantages of AI-based advertising to a fashion retailer.

All in all, the findings substantiate that AI is an effective tool to enhance consumer experiences, make advertisements more effective, and support long-term brand relations. The more fashion companies implement transparent, customized, and interactive AI approaches, the more they will be likely to establish a stronger emotional presence and gain competitive edge in the ever-growing digital market.

Limitations and Future Scope

The current research has several limitations that can be identified. First, the sample size was limited at 300 the respondents who were chosen by purposive sampling which could limit the generalization of the results to the rest of the population of fashion apparel consumers in India. Also, the answers were mostly gathered among urban and digitally active participants, and it might not be entirely reflective of the views of the rural consumers or those that are not well-exposed to the concept of online shopping and advertised using AI. The other shortcoming is due to the self-reported data in the form of structured questions which are susceptible to biases including unreliable recall or social desirability. Moreover, the authors did not address the other significant dimensions related to AI ethics, interface design, social influence, and perceived intrusiveness as they concentrated exclusively on the selected variables, namely, personalization, relevance, interactivity, and trust. Finally, the study is cross-sectional, so it captures the perceptions of the consumer at one point in time, but the attitudes can change as AI technologies are more widespread and consumers become accustomed to them.Irrespective of these shortcomings, the investigation provides several good prospects of further investigation. In subsequent research the sample size can be extended and respondents with various geographical and demographical setting can be involved to increase representativeness. The other variables that researchers can include to better understand the consumer responses are AI explainability, emotional branding, perceived intrusiveness, or cultural influences. Longitudinal studies would also help to study how the engagement and trust changes over time as AI-based advertising becomes more advanced. Comparison of various industries including beauty, electronics, or travelling may show that the effect of AI-based advertisements may differ between industries. Also, experimental, or behavioural, evidence, like eye-tracking or A/B testing, or actual consumer interaction data may give a better insight into what is beyond self-reported perceptions. Lastly, the next direction of research can be the psychological and cultural differences in perceiving personalization, trust, and involvement in AI-driven advertising settings by various consumer groups.

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Model Development for Predicting Online Student Performance Based on Student Engagement Determinants

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Abstract: Online student engagement is one of the challenges to take into account in this era of digital learning, where learning is flexible and accessible. When compared to offline learning and education, many students continue to feel disengaged, have very low motivation, and participate inconsistently, which directly affects their learning and academic outcomes. To overcome this challenge the current study develops a validated parsimonious model for predicting student performance in order to suggest suitable parameters to flourish. This major objective is met by using Kaggle dataset named "Predict Online Course Engagement Dataset" with 9000 observations under 9 variables that predicts student performance based on student engagement determinants. This predictive model development is based on classification models under supervised Machine Learning algorithms such as Logistic Regression, KNN classifier, Support vector classifier, Decision Tree Classifier, Bagging Model (Random Forest Classifier), Boosting models (i.e., ADA Boost) and stacking models, validated by using Confusion Matrix and ROC-AUC. Even, model tuning is performed for choosing the best model. Results showed that AdaBoost fits better than Random Forest. This model helps faculty in identifying the parameters where they nurture their pupils for better results. Similar kind of models can be developed by Institutions in assessing and guiding students.

Key Words: Predictive model, Student Performance, Supervised Machine Learning, Classification Models, Engagement Determinants.

Introduction

Whereas digital learning has scaled up with unprecedented speed, offering flexibility and unparalleled access, the approach is still facing one overriding challenge: how to best ensure that students remain highly engaged for the duration of learning. Without the live interactions and structuring cues of learning-as in regular classrooms-many times online learners show lower motivation, spotty participation, and less academic discipline. With the exponential growth of EdTech platforms, institutions gather an ocean of student activity data through LMSs, MOOCs, and self-paced courses. Such rapid proliferation of learning analytics creates a great opportunity to predict student performance effectively by using machine learning methods that mine behavioral patterns of engagement. Predictive models help to timely identify disengaged or at-risk learners and ensure that timely interventions along with personalized support and better learning

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trajectories are offered to such students. However, much of the existing research is based either on black-box models that are too complicated or targets a narrow array of algorithms and seldom is aimed at developing parsimonious models offering a high degree of accuracy and interpretability, which is essential for real-world academic adoptions. This research paper fills this gap by developing a validated and simplified predictive model grounded in basic determinants of engagement. For that, the work leveraged the Kaggle dataset "Predict Online Course Engagement" of 9,000 observations across 9 variables of student interactions. To this end, several ensemble supervised machine learning algorithms were implemented and compared, namely Logistic Regression, K-Nearest Neighbors (KNN), SVM, Decision Trees, Random Forest, and Boosting models such as AdaBoost. Feature selection techniques, like Variable Importance and the Boruta algorithm, were employed to isolate the most influential predictors in a model that is both simple and powerful. The experimental results have indicated that, under both full-feature and reduced-feature conditions, the highest generalization performance is achieved by using AdaBoost, and it thus represents the most robust classifier under the conditions of online student outcome prediction. Another implication which could be derived from this study, but at a more important level than algorithmic performance, is that a parsimonious but well-designed model works in the forecast of student performance, with high accuracy without sacrifice of simplicity and transparency. Overall, this study presented a sound data-driven framework that any institution could adopt for the purpose of monitoring student engagement, predicting academic outcomes, and intervening early and in time. Understanding the basic drivers of engagement allows educators to effectively create specific instructional strategies, shape appropriate support systems, and further promote student success in the current digital learning environment. E-learning has enabled flexibility, but it suffers from not being able to maintain learner engagement, which eventually causes reduced motivation, participation, and academic performance. Similarly, institutions are generating a large volume of learner activity data, which, with the help of machine learning, can enable an early prediction of students at risk based on engagement behaviors. This study will develop a simplified and interpretable AdaBoost-based predictive model using key engagement indicators to help institutions monitor learners and support timely interventions.

Literature of Review

Digital learning offers flexibility and access but often fails to sustain student engagement, which in turn undermines motivation, participation, and academic discipline and ultimately poor performance and course completion. Simultaneously, rich clickstream and activity logs emanating from institutions using LMSs, MOOCs, and selfpaced platforms create very strong opportunities for predicting outcomes from engagement behavior and flagging at-risk learners early for targeted support. Previous work has employed a variety of supervised machine learning methods for modeling online performance and dropout, including logistic regression, k-NN, support vector machines, decision trees, random forests, and boosting; most report good accuracy but often at the cost of complex and opaque models. A number of these studies observe that ensembles like AdaBoost, gradient boosting, and XGBoost consistently outperform single classifiers, but typically prioritize predictive power over interpretability and rarely construct compact models that instructors and administrators can easily comprehend and act on. Publicly available engagement datasets, such as "Predict Online Course Engagement", offer realistic interaction metrics like page views, video completion, quiz attempts, session count, and time-on-task that provide the opportunity to systematically benchmark algorithms under similar conditions. Whereas most of such datasets are analyzed using all available features, focused work on reduced-feature configurations that yield similar performance is still limited in higher-education contexts. Approaches like variable importance rankings, wrapper methods, and all-relevant techniques of feature selection, such as Boruta, help in the identification of the most informative engagement indicators that reduce noise, improve generalization, and simplify the interpretation. All these methods, when combined with ensemble learners, can provide parsimonious classifiers that preserve or even enhance predictive performance while lowering the computational cost and easing the deployment in real-world institutional settings. In that regard, the present study applies several machine learning supervised algorithms on a big dataset of online engagement and further develops a reduced-feature AdaBoost model built only on the most influential predictors. This work directly responds to calls for accurate yet interpretable predictive frameworks by offering a validated, simplified model that institutions can use in order to continuously monitor engagement, anticipate outcomes, and implement timely, data-driven interventions to support student success within digital learning environments. Previous research demonstrates that machine learning models, particularly ensemble techniques like AdaBoost and Random Forest, are capable of accurately predicting online student performance; nevertheless, they frequently lack systematic feature reduction, simplicity, and interpretability.

Methodology

In this Study, a dataset from Kaggle, "Predict Online Course Engagement" with 9,000 observations of nine variables, where Course Completion is the dependent variable and Time Spent on Course, Number of Videos Watched, Number of Quizzes Taken, Course Category, and Device Type are the several engagement-related independent factors, was used.

For this model, User ID was eliminated since it has no predictive power. Data preprocessing involved encoding categorical variables, scaling numerical features for algorithms such as KNN and SVM. The dataset was then divided into 80% training subset and 20% testing subsets. Several supervised machine learning models were designed and compared: Logistics Regression, KNN, SVM, Decision Tree, Random Forest, AdaBoost, and Stacking. Feature selection using Variable Importance (varImp) and the Boruta algorithm reduced the predictors to six from eight. Model parsimony was achieved. The models were evaluated by Accuracy, F1-Score, ROC-AUC, and Train-Test comparisons to check for overfitting. This work also applied cross-validation methods in order to obtain stable performance estimates across different data splits, reducing thereby sensitivity to variability in different samples. Model tuning was done for the most important model parameters using grid search so that algorithms such as KNN, SVM, Random Forest, and AdaBoost could each operate at their best configuration. In addition, class distribution was assessed to ensure that there was a balance between completion categories, and relevant performance measures were then used to avoid bias toward majority classes. The development and analysis of these models were done in R, utilizing packages such as caret, e1071, and pROC for training, tuning, and testing classifier performance to ensure consistency and reproducibility over the

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entire analysis with the splitting Ratio of 80:20.

Results & Discussion

Full Model Results (8 Variables)

All metrics are maximum for Random Forest and Decision Tree with 8 variables, reaching 0.958 and 0.954 of Test Accuracy with a corresponding Test F1 of 0.966 and 0.962, respectively. However, these models are heavily overfitting with Train Accuracy = 1, which results in poor generalization. SVM and KNN did well with a Test F1 of 0.894 and 0.857, respectively, though still overfitting somewhat. Logistic Regression and Naive Bayes performed badly.In contrast, AdaBoost had a test accuracy of 0.952, test F1 of 0.939, and AUC of 0.948; this model is slightly overfit compared to Random Forest. Under the full-variable setting, the best performance comes from AdaBoost comparatively.

Parsimonious Model Results (6 Variables)

Excluding features such as Course Category and Device Type, which varImp and Boruta each independently selected, yielded a parsimonious model that improved generalization. Again, Random Forest had the best metric results, landing at 0.958 Test Accuracy and 0.966 F1, while the training accuracy remained at 1.00 to confirm overfitting. Decision Tree also showed high performance metrics with similar overfitting. Performances were as follows: AdaBoost yielded 0.9538 for test accuracy, 0.9405 for Test F1, and an AUC of 0.949. Hence, AdaBoost did great with fairly decently controlled overfitting. SVM, on improved settings, did quite well with a test accuracy of 0.894 and an AUC of 0.895 but still fell short of AdaBoost. These results thus show that the parsimonious AdaBoost model offers more generalization and stability.

Comparative Analysis

Comparing the results of both models, one can clearly observe that the parsimonious model achieved very similar or even better results with less number of predictors, which predestines this model to be more effective and interpretable. Random Forest, while displaying the highest metric values throughout, also overfitted the most, which seriously diminishes its deployment potential. That is how confirmation that AdaBoost was indeed the optimal predictive algorithm was obtained because it sustained top-of-the-class performance on both full and reduced models without extreme overfitting.

Key Observations

The most influential engagement variables that feature in most of the models in feature importance analysis are the number of videos watched, number of quizzes taken, and time spent on the course. These behaviors were directly contributory to the prediction of course completion. Hence, educators can pay more attention to the engagement with videos, participation in quizzes, and usage of time to derive better learning outcomes. Adaboost outperformed the rest, and again this reflects the strength of boosting techniques in dealing with misclassified instances and subtle engagement patterns,relatively poor in terms of AUC, 0.790 and 0.809, showing just-fitting or underfitting behavior.Lastly, by the end, AdaBoost achieved a test accuracy of 0.952, a test F1 of 0.939, and an AUC of 0.948; it showed slight overfitting with respect to Random Forest. Therefore, in this full-variable setting, AdaBoost was doing the best as compared to the rest of the models.

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With all 8 Variables (By Removing User ID)

Model	Test_F1	Test_Accuracy	Test_AUC	Train_F1	Train_Accuracy	Train_AUC	Remarks on F1	Remarks on Accuracy	Remarks on AUC
Naive Bayes	0.865055	0.8294444	0.809481	0.862039	0.8233333	0.799529	Justfitting	Justfitting	Underfitting
KNN	0.883057	0.8588889	0.852593	0.923288	0.9068056	0.90097	Overfitting	Overfitting	Overfitting
Logistic Regression	0.838035	0.8022222	0.79028	0.837632	0.7988889	0.783069	Justfitting	Justfitting	Underfitting
SVM	0.894595	0.87	0.858443	0.902163	0.87875	0.866363	Overfitting	Overfitting	Overfitting
Decision Tree	0.962557	0.9544444	0.950253	0.968743	0.9619444	0.958012	Justfitting	Justfitting	Justfitting
Random Forest	0.966333	0.9588889	0.953936	1	1	1	Overfitting	Overfitting	Overfitting
ADA Boost	0.93918	0.9522222	0.9484	0.951029	0.9616667	0.9578	Overfitting	Overfitting	Overfitting

Parcimonious Model: (with only 6 Variables 1-DV & 5-IDV), Removed CourseCategory & DeviceType using Feature Selection (varImp & Boruta)

Model	Test_F1	Test_Accuracy	Test_AUC	Train_F1	Train_Accuracy	Train_AUC	Remarks on F1	Remarks on Accuracy	Remarks on AUC
Naive Bayes	0.865816	0.8305556	0.810882	0.862286	0.8236111	0.799759	Justfitting	Underfitting	Underfitting
KNN	0.878565	0.8533333	0.84655	0.923411	0.9069444	0.901085	Overfitting	Overfitting	Overfitting
Logistic Regression	0.836215	0.8	0.787958	0.838637	0.8	0.78405	Justfitting	Justfitting	Justfitting
SVM	0.918211	0.8994444	0.890041	0.923839	0.9059722	0.895829	Overfitting	Overfitting	Justfitting
Decision Tree	0.962557	0.9544444	0.950253	0.968743	0.9619444	0.958012	Justfitting	Overfitting	Justfitting
Random Forest	0.966333	0.9588889	0.953936	1	1	1	Overfitting	Overfitting	Overfitting
ADA Boost	0.94051	0.9533333	0.949332	0.951029	0.9616667	0.957782	Overfitting	Overfitting	Overfitting

Conclusion

This study evidences that online student performance can be effectively predicted by engagement-driven machine learning models and that AdaBoost consistently yields the most considerable balance of accuracy, generalization, and stability. Reducing the feature set to only the most influential engagement indicators, this research proves that compact and interpretable models can yield performances equivalent to or better than complex full-feature systems. It further justifies that engagement behaviors-viewing content, attempting quizzes, and time invested-are, in fact, reliable predictors of course completion. The findings also underline the fact that thoughtful feature selection combined with robust ensemble methods yields practical, scalable models that institutions can adopt directly for early identification of at-risk learners. The simplified yet powerful analytical framework in general contributes to supporting timely academic intervention, data-driven decision making, and a rise in learning outcomes across digital education settings.

Practical Implications

The implications of this study, therefore, have a number of advantageous benefits for teachers, leaders, and organizations operating in digital learning settings. It provides schools with the ability to act faster due to identifying youngsters with low engagement behaviors before their grades decline.

- Improve Academic Support Systems: Based on their usage patterns, School can thus develop an individualized learning plan, remedial sessions, or dedicated mentoring.
- Data-Driven Decision Making: Contrasting with the mere use of intuition, this model will give educators very worthy suggestions for far better informed instructional decisions.
- Better Course Design: Course designers can rearrange the content for better student engagement by determining which of the engagement metrics-videos viewed, quizzes completed, time spent-is the best predictor of performance.It enhances adaptive learning and allows students to pick up tailored advice based on their specific profile of engagement.
- Institutional monitoring and reporting: The model may also be included in learning analytics dashboards by administrators, especially for the purpose of progress monitoring of learners and overall course quality. Scalability: The model is small and quite simple; therefore, it is easily usable on many digital platforms and across curricula.

Limitations

- Specificity Of Dataset: The Dataset Is Provided By Kaggle, So It Might Be Further From Real-World Institutions.
- Limited Variables: Only The Factors That Pertained To Behavioral Engagement Were Considered, Excluding Both Psychological And Demographic Aspects.
- Static Data: Engagement Was Captured In Aggregate Form Without Tracking Changes Over Time.
- Model Scope: This Only Includes Classical Ml Models And Does Not Include Deep Learning Approaches.
- Generalizability: Results May Differ Among Different Courses, Platforms, Or Institutions.
- Class Imbalance: Uneven Completion Categories May Affect Model Performance.

Future Scope

- Inclusion of more variables can provide a deeper perspective regarding psychological, demographic, and motivational factors.
- Dynamic Engagement Modeling: Time-series or sequential models allow capturing how engagement changes across the course duration.
- Advanced Deep Learning: LSTMs, GRU, or transformer variants offer a better predictive capability.
- Cross-Institution Validation: Testing of the model on different university datasets and LMS platforms to enhance generalizability.
- Real-time Prediction Systems: Development of live dashboards and early warning tools for faculty based on real-time LMS activity logs.
- Integrating with EdTech Platforms: Integrate the parsimonious model into learning management systems for the automated tracking of students.

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Digital Transformation in Indian Banking: A Management Perspective

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Abstract: In Indian Finance Sector is encountering a major shift as digital technologies reduce traditional operations and customer services. Online technologies change the way banking services are delivered. In last years, tools such as M- banking, artificial intelligence, online payments system, online customer support have pushed banks to revise about their traditional banking methods. This research paper studies about how Indian financial sector is managing this digital transformation from a management own perception. It focuses on how bank leaders take a decision, how new technologies are adopted, and how bank maintain a balance between innovation and strict regulatory rules. All study is depended on secondary data, industry surveys, government reports, and existing literature. It identifies changing customer anticipation, competition from fintech companies and government initiatives like digital Bharat and UPI. Paper also highlights main challenges, including cybersecurity risk, hight investment costs in employee skill gaps, and remonstrance to change withing association (organisation). The analysis shows that Digital transformation in Indian banking is not just about adopting new technologies, but also managing people successfully, re-designing processes, and building a culture that is open to innovation. This paper concludes that bank with strong leadership, clear strategies, continuous training and prioritize consumer's needs while planning helps to achieve long-term achievement.

Keywords: Indian Banking Sector, Digital Transformation, Digital Technologies, Mobile Banking, Digital Payments, Online Customer Support, Innovation, Training.

Introduction

Digital change in Indian banking means changing the traditional ways they used to work and referring quicker, smarter, and technical-based systems. Earlier, banks depended on physical outlets and hand-operated process. But today, many activities can be done through mobile application, digital banking, UPI (Unified Payments Interface), QR deposits, and digital platforms. And it shifted like this all for customer fast, suitable, secure and safe services. Indian banks are also fronting competition from fintech companies like PhonePe, Paytm, Google Pay, Fam Pay and many more apps based on monetary services. These companies provide superfast services and to compete them bank also need to improve their services and upgrade their systems to stand in competitive era. Government projects like Digital India and JAM (Jan Dhan Aadhar-Mobile) also inspire bank to use digital tools. At the same time, administrative body like RBI (Reserve Bank of India) are also encouraging secure digital invention. However, digital transformation is not just about technology. It is more about how the bank's management handle the

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transformation. Leaders in banks also play an important role by taking planned commitments because of course if management is not understanding or if the employee will not adapt the change, even the best technology will fail. Successful digital transformation requires a strong perception from leaders, clear planning, proper asset granting, employee skill improvement, and a culture enclose new ideas and changes. Banks also need to make sure that their systems are safe and secure and strictly follow all rules and regulations by regulatory bodies. Another important part of digital transformation is improving customer experience. Indian customers specially the younger generation, prefer quick 24/7 services without visiting the bank and this change in future will be the one the best change. When technology, management, and customer needs all align together, digital transformation becomes truly effective and sustainable.

Objective of the Study

1. To understand the theory of digital changes in the banking sector.
2. This objective focus on the shift from traditional and physical orientation banking to digital platforms in form of mobile apps, UPI(Unified Payments Interface), and online services which improves speed, accuracy and availability for customers.
3. To analyse the function of management and leadership in leading digital initiatives.
4. This study shows how leadership decisions shape the success of digital transformation adoption which include planed strategies, allocation of resources, guiding employees. It also highlights the importance of management useto run new systems smoothly.
5. To study the challenges faced by banks during technology promotion
6. This objective focuses on actual difficulties and challenges experience during the digital transformation like redesigning manual procedure, investments in new infrastructure, and assuring data security. This study aims to understand about how difficultiesaffect the implementation on digital systems.
7. To judge the impact of digital transformation on customer satisfaction and services.
8. This objective aims to measure how digital transformation affect customer experience. It estimates whether digital banking meets customer belief and how it effects long-last customer reliability include improvements in services, transactions speed, 24/7 access, and overall satisfaction for sure.
9. Suggestions to improve digital banking transformation process
10. This objective aims to guide banks how to embellish training, up-to-date systems, stronger management practices, and enhance customer engagement. Basically, main goal is to ensure smooth, more effective and sustainable digital change in the long run.

Research Methodology

The study is based on secondary research; the information has been collected from already existing sources instead of conducting primary surveys and interviews. The main focus is to acknowledge how Indian banks are lead digital transformation from a management perspective.

1. Research Design

This study carries a detailed research design, which allows the researcher to explain the existing trends, patterns, challenges, and managerial practices related to digital banking.

2. Type of Data Used

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The research totally depends on secondary data, collected from trustworthy and reliable sources such as:

- Academic journals
- Published research papers
- RBI reports
- Annual reports of banks
- Research articles from reputed databases
- Government publication and policy documents
- Authentic news articles and industry reports

Secondary data is chosen for this project because digital transformation in Indian banking is broad and national level topic, and exciting literature and research already provide verified information.

1. Data Collection Method

Data is gathered using literature review and document analysis. Basically, researcher extract main and meaningful points from multiple sources by comparisons, carefully reading and interpretations. The main objective is to understand various perspective on management strategies, technology adoption, and customer impact.

2. Tools of analysis

The study uses Qualitative Analysis, where information is explained in the form on themes and concepts, such as:

- Role of leadership
- Technology integration
- Employee training
- Challenges and risks

This approach helps in understanding in deep insights rather than numerical data.

Limitations of Methodology

- The research is totally depended on secondary data, so findings depend on the accuracy of published resources.
- No direct interactions mean no primary survey so customer opinions and employees views are measured in this research.
- Some latest updates may not be available in all resources.

Drivers of digital transformation in Indian banking

Digital transformation in Indian banking is not happening randomly, it is driven by combination of technical, economic, consumer and government forces. These drivers push banks to renew their system, improve performance, and provide faster, safer and more beneficial services. Some of major driven are:

1. Changing Customer Expectations: Modern customers expect banking to be quick, simple, and available 24/7Now days majorly customers prefer digital apps, instant payment methods, digital onboarding, and one-to-one recommendations instead of visiting banks.
2. Rise of fintech companies: FinTech firms introduced fast, straight forward, minimal cost, financial services by companies like PhonePe, Paytm, Google Pay, Razor pay, Fam pay etc. these companies offer facilities like in-sec payment, digital coin-wallets, loan provider apps, and investment platforms, and just to stay competitive banks are forced to upgrade their own technology and collaborate with FinTech's.
3. Government action& digital India push

The Government of India is strongly supporting digital payments and financial involvement. Key initiatives include:

- Digital India mission
- Jan Dhan Yojana
- Adhar linked services
- UPI (Unified Payments Interface)
- BHIM app

These national-level programs motivate banks to digitize their services and grow online banking over the country.

4. Regulatory consents (support) from RBI

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The Reserve Bank of India motivate digital invention through RBI guidelines, policies and secure structure, such as:

- Digital loan norms
- UPI expansion
- Card-on-file tokenization
- Encouraging cybersecurity quality

This regulatory support reduces possibility of risk and provides secure environment for digital banking.

5. Technological advancement

No Doubt new technologies have made digital banking easier and more powerful like:

- Artificial Intelligence (AI)
- Machine learning (ML)
- Cloud computing
- Blockchain
- Biometrics
- Data analysis

As these technologies improve accuracy, reduce human mistakes and increase speeds to motivate banks to combine them into their operations.

6. Need for operational productivity

According to today's generation traditional banking operations are slow, costly,and highly manual. Therefore, digital systems allow banks to:

- Mechanize routine work
- Reduce paperwork
- Cut operational cost
- Enhance accuracy
- Speed up service carriage

Which pressurise banks to increase their productivity and reduce cost which drives banks towards digitalisations.

Role of management in digital transformation

Management plays the most important role in leading digital transformation in Indian banks. The management team decides the direction, assets, and culture of the organisations which directly affects in adoption of digital banking, because technology alone cannot create or change unless leaders plan it properly, support employees, and ensure smooth performance.

1. Strategic direction

Management sets the all- inclusive directions for digital transformation basically; their planning make sure that all departments work together at the same goal which includes:

- Technologies the bank should fund in
- Which services should be shifted virtually
- What customer parts they want to aim
- How much risk is there in adopting new tool

Because without a crystal-clear strategy, digital projects become irregular,slow and inefficient. Strong leadership assure all departments move in one direction to achieve the goal.

2. Resource allocation

Digital banking requires investments in

- Powerful IT systems
- Cybersecurity infrastructure
- Skilled& pro employees
- Data analytics tools

Thus, management finalize when, where, and how much to invest for bank to modernize efficiency without unessential risks.

3. Change in management

Basically, bringing in digital tools means having changes in old processes, and management helps employees in adjustments, reducing struggle, clear communication, and make the smooth change. Without their support, even good technology fails.

4. Employee training & skill development

To adjust in new era of digital banking, staff need proper trainings to achieve goal effectively which includes training plan of action, workshops, hand-on meetings, and progressive learning so employees feel confident with new tools like digital banking system, AI chat bots risk

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management software and data platforms, decrease resistance.

5. Maintaining compliance & security

Banking is highly governed sector, and to continue this they must follow RBI rules, data privacy laws, KYC (Know Your Customer)& AML (Anti Money Laundering) standards, and cybersecurity regulations, they also create internal policies to shield customers data and avoid cyber risk. Thus, management ensures that digital initiatives are safe, legal, and secure for customers and bank's reputation for sure.

6. Monitoring & continuous improvement

Digital transformation is not a one-time project its ongoing process. Management continuously:

- Monitor performance
- Track customer feedback
- Evaluate the success of digital channels
- Make improvement as needed

These steps help bank a lot to improve continuously and stay ahead in competitive market.

Challenges and issues faced by Digital Banking

Digital Banking is growing rapidly, but also several challenges affect the smooth implementation such as:

1. Cybersecurity Threats- banks are facing increasing cases of frauds, phishing, data theft, and unauthorised access and now ensuring customer data protection has become a difficult and continuous task.
2. Digital illiteracy- this issue is more problematic in rural areas especially among the elderly customers other than many people still struggle with mobile banking apps, online transactions, or understanding guidelines.
3. Infrastructure issues- this is totally unpredictable because problems like slow internet speed, server failure, and downtime. Even a small technical error can interrupt transactions and affect customer trust.
4. Hight implementation cost- setting up advance technology, secure servers, automated systems, perfect management, cyber- security infrastructure, and need of skilled IT staffs requires a large amount of investment. This continuous investment is challenging issue for many banks, especially for public sector banks.
5. Customer trust issues-many customers still hesitant to fully depend on online banking because of fear of fraud, technical errors, especially privacy concerns. Building trust was never easy so this the digital trust definitely takes time, even a single negative experience can reduce confidence in digital systems.
6. Regulatory compliance- they face this issue because some strict rules set by RBI should be followed by banks while going digital like:
   - Data protection
   - KYC
   - Cybersecurity
   - Regular reporting
7. Need of constant updates in system if banks fail to follow these regulations, they may face penalties and lose customer trust.

Managerial solutions to overcome challenges

To successfully manage digital transformation, banks must adopt practical and well-planned design. Effective management ensure smooth implementation, improved efficiency, and long-term sustainability of digital banking.

1. Strong leadership and clear version definitely leadership plays an important role in every field, here also digital transformation starts with leadership that understands technology and its long-term benefits. Clear plans by manager for the employees like

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what will happen, what they needed, and how will they adapt shows a confident and committed leadership.

2. Continuous employee training According to this fast-changing digital tools employees must be updated, banks should conduct frequent trainings for employees. Skilled employee reduces operational mistakes even complete tasks faster and improves overall quality of service.
3. Investment in secure and strong technology Proper work in digital banking needs investments in reliable technologies includes secure servers, updated software, AI based fraud detection, cloud systems, and cybersecurity tools.
4. Customer awareness and digital literacy programs Customers queries and hesitation related to digital banking should be solve first. Management should organise awareness drives, simple tutorials, SMS alerts, and workshops to teach customers how to use digital services safely. Users trust for bank will soon shift cash transactions to digital for sure.
5. Strong risk management and compliance system RBI rules, laws, security standardsplay very important role in digital banking. Banks need a strong internal compliance team that keeping system updating, check for risks, ensure to follow regulations strictly.
6. Balanced cost management and smart investment planning When huge investment needed some sharp minds also needed to use them wisely just like this, managers can break the transformation in phases-

- Starting with most important technologies first.
- Collaborating with fintech companies or
- Using cloud-based solutions

Can reduces overall cost and speed up implementation helps the digital bank a lot for their financial issue.

Future scope of digital banking in India

1. Growth of AI and automation- banks will use faster decision-making technologies like AI, chatbots, fraud detection make banking quicker and more efficient.
2. Rise of cashless transactions- cash transactions are mostly used in rural areas which will change to digital transactions by expanding UPI, QR payments, and mobile wallets etc. such services.
3. Blockchain for security- this technology will help make transactions safer, transparent, and safer, especially for cross border transfers and record management.
4. Financial inclusion in rural India- bank will reach to remote areas by digital tools, biometric services, affordable internet and also increase access to financial services.
5. Personalised banking services- customer are God for us just like banks will also use data analytics to offer customized loans, saving plans, and investment suggestion for customers and according to their behaviour.
6. Stronger cybersecurity systems- safety is most important, with rising digital usage bank will focus on advance security tools like biometrics, encryption, and real fraud alerts for customer protection and safety.
7. Bank-Fintech collaboration- traditional banks will collaborate with Fintech companies more to offer innovative services like instant loan, digital investment options, and smart payment solutions.
8. Growth of neo-banks- fully digital banks with no physical branches all digital work will soon become more common offering faster, simpler, cost-effective banking services.

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9. Smarter customer experience- paper work, opening account, loan approval work needed long timewill change to instant and 24/7 services through digital platforms.
10. Advanced technology integration- technologies such as cloud banking, machine learning, and automation will help bank improve operational efficiency and offer seamless services.

Conclusion

Digital transformation has completely changed the Indian banking industry over the last decade by turning traditional banking more efficient, transparent, and customer-centric system. Adoption of advance technology for financial services like mobile banking, AI tools, digital payments, online service portals etc. help bank to deliver faster, safer, and convenient services. Efficiency for bank operations, and customer experiences has improved a lot from this transformation. Banks can now fulfil customer need efficiently by quickly transactions, reducing manual errors, 24/7 services, personalisation for financial products. Now customers can manage their finance independently and use services any time, any where by digital tools like UPI, interest banking, and mobile apps. Journey never ends without risk and challenges, in this transformation journey banks face cybersecurity risks, high investment requirements, digital skill gaps, need for strong regulatory compliance. But now Indian banks adapted many techniques like better security systems, staff training, and technology partnerships which result having doubtlessly customer trust also encourage people to shift digitally.

This digital shift force banks to rethink about the upgradation in long-term strategies. No banks don't only rely on physical branches, apart from these banks decide to adopt hybrid model where traditional services and digital services works together. This digital shift not just modernize the banking but, also make a strong and inclusive financial ecosystem. Today banks are not only transaction centre, it is the strong base for customer empowerment, innovation, security concerns. Expansion of digital growth help not only in urban area but rural areas are also connecting with digital banking system, also boosts inclusion and economic development. Now with every digital advancement Indian banking is getting more and more stronger, efficient, and eve ready to full fill customers fast changing expectations and to compete in competitive financial markets.

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- Shows banks' digital adoption, productivity gains, and tech challenges. McKinsey: https://www.mckinsey.com/featured-insights/india
- Explains leadership role, customer experience, and automation benefits. **IJMSSR:**https://ijmssr.com/wp-content/uploads/2023/02/IJMSSR-22212.pdf
- Discusses open banking, embedded finance, and long-term trends. **PwC:**https://www.pwc.in
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Sustainable Branding How an Eco-Friendly Image Impacts Consumer Choice Worldwide

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Abstract: This research explores how a brand's eco-friendly and sustainable image influence consumer globally. Today's buyers are more aware and prefer brands that care for the environment. The purpose of this research is to understand whether an eco-friendly image can shape customer decision, trust and loyalty towards a brand. Consumers concerned about their health and the environment, expect brands to ensure that the products they manufactured are environmentally friendly and have no adverse impact on the entire environment. There are collecting responses were analysed to understand their expectations from brands regarding sustainability, product safety, and green manufacturing practices. The results also indicate that customer associated with eco-friendly brands with higher trust and long-term health benefit. Sustainable branding positively affects on customer satisfaction and helps companies to build stronger emotional connection with their targeted market and targeted group of audience. Overall, the study concludes that eco-friendly branding has significant impacts on consumer preferences and plays an essential role in shaping modern buying behaviour. Companies adopting sustainable practices are more likely to gain competitive advantages and long-term customer loyalty.

Keywords- Sustainable Branding, Eco-Friendly Image, Consumer Choice , Green Marketing ,Brand Perception, Global Consumer Behaviour .

Introduction

In the modern era, sustainability has become a key part of global business. It means doing business in a way that meets present needs without harming generations. Many companies now focusing on reducing waste, saving energy, and using eco-friendly materials. Today's consumers, especially the youth, are aware of climate changing and pollution. They support brand that take real action to protect nature. Because of this, sustainable branding has become a powerful marketing strategy worldwide. It has becoming a strong deciding factor for the entire consumers. It creates positive image towards young or Gen-Z consumers. If companies make false green claims (Green washing) consumer trust is immediately lost. Overall, Sustainable branding is advantage, especially in competitive markets.

Conceptual Formula of Sustainable Branding:

SUSTAINABILITY + DIGITAL MARKETING = RESPONSIBLE BRANDING + STRONGER CONSUMER CONNECTION

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In recent years, sustainability has significantly reshaped both customer behaviour and global-level marketing strategies. This shift has increased demand for products with low carbon footprints, recyclable packaging, and socially responsible sourcing. As a result, companies around the globe are redesigning their marketing approaches to highlight sustainable initiatives, eco-certificates, and green innovations.The growing alignment between sustainability values and purchasing decisions shows that sustainability is no longer optional-it has become a core a driver of modern consumer choice and worldwide marketing strategies. Hence, this research studies how eco-friendly branding influence consumer choice globally.

Literature Review

Sustainable branding is increasingly important as consumer prefer eco-friendly products. Green marketing, eco-lables, and Environmentally conscious packaging enhance brand trust and influence purchase decisions (Meixner et al., 2021; Dhingra & Rani, 2024).Millennials and Gen Z are more likely to support sustainable brands due to environmental awareness and social media influence (Panchasara, 2024; Tarannum & Daryal, 2024).Challenges such as high pricing, limited availability and skepticism can affect adoption (Li,2025). Despite this, brands with consistent eco-friendly practices gain stronger loyalty and a positive global reputation (Mohammadi et al., 2023; Hussain et al., 2024).Overall, the literature suggest that integrating sustainability into branding strategy is no longer optional but essential for businesses aiming to succeed in a global market positively. Eco-friendly branding impacts on consumer choice, trust, and loyalty, giving brands a advantage to committed to environmental responsibility and competitive advantage in the global market.

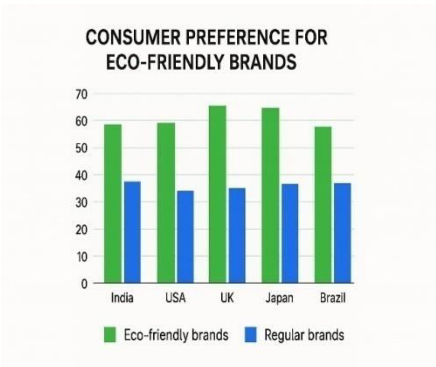
Methodology

The study adopts a descriptive and analytical research design to examine the impact of sustainable branding on global consumer choice. It is based on secondary data sourced from academic and social media platforms and websites such as research gate, google scholar and peer reviewed journals, articles. Relevant literature was selected using purposive sampling based on alignment with the research objectives. Secondary data was gathered from research papers, company reports, and creditable websites on brands like TATA, IKEA, Patagonia and other eco-friendly companies. The data was systematically organised and analysed using charts and graphical representation to interprets trends and evaluate the influence of eco-friendly brand image on consumer decision-making worldwide.

Results/Findings

The finding of the study reveal a clear shift in the consumer behaviour towards sustainability, largely driven by growing environmental awareness. Consumer want their purchasing decision to contribute to positive environment impact, which is why they increasingly prefer eco-friendly brands and products that help reduce carbon footprints.

- **Consumer Preference For Eco-Friendly Brands**



- **Brand Loyalty Vs. Sustainability**

It also show that sustainable products have seen as more durable and reliable, which strengthens consumer trust and enhance the overall brand image. This rising preference for environmentally responsible products has created a strong demand for organic goods, cruelty-free cosmetics, and ethical fashion, pushing industries to innovate and adapt their operations to more sustainable models The results indicate that Gen Z and the young generation play a major role in this shift, as they are more aware through social media, education, global campaigns, making them more conscious about climate change and sustainable living. Moreover, consumers, especially younger generation or Gen Z's generation, believe that their purchase reflect their personal values and act as a form of activism, encouraging brands to demonstrate transparency and responsibility in product design, packaging, supply chains, and overall operations with consumer becoming more discerning, they increasingly expect companies to prioritise sustainability, which has made ethical behaviour a major factor shaping consumer choice worldwide.

Discussion

According to the finding, most Mature & aware consumers prefer eco-friendly brands because they are concerned about environmental protection as well as their own health. They do not focus only on price, but also consider how much a product affects nature. Sustainable brands use natural use natural and safe material, which increase trust and reliability. Therefore, consumer trends to choose brands that follow responsible &environment friendly practices. A mostly similar trend was observed among respondents, where the majority showed a positive preference for eco-friendly brand. Most consumer considered environmental protection, health safety, and sustainability as important factors, indicating a common pattern in their behaviour. However, some difference were also noticed, as a few respondents prioritised price & convenience over sustainability. It shows that while the overall trends support eco-friendly preference, slight variations in consumer perception & decision-making also exists. The finding are further supported by real-life brand example such as TATA & IKEA, which clearly demonstrate how sustainability, trust and customer-focused strategies influence brand popularity. The popularity of these brands shows that factors such as trust, quality, affordability, and sustainability strongly influence consumer choice. TATA is known as for its ethical values, strong brands trust and social responsibility, which creates an emotional connection with consumers. One the other hand, IKEA attracts customers through innovative designs, functional products & eco-friendly practices. both brands focus on customer satisfaction and sustainable strategies, making them preferred choice among modern, environmentally conscious consumers. Patagonia, Tesla, The Body Soap, H&M Starbucks, Nike, Ikea, Lego, these brands are globally popular as eco-friendly brands who uses sustainable practices & environment-conscious strategies and modern consumers really appreciate these brand. However, some consumers still avoid these products due to limited availability, brand unfamiliarity, or doubts about quality. And some due to preference for traditional brands and habits. Overall, the discussion highlights that the impact on consumer choice worldwide shows that environmentally conscious and socially responsible practices by brands like TATA, IKEA, Patagonia, and others significantly influencing consumer preference. Consumer now prioritize ethical souring, eco-friendly products, and overall brand credibility when making purchasing decision, although factors like price availability can still affect adoption.

Conclusion

Sustainable branding is now a global necessity. Eco-friendly companies don't just sell products; they sell values. Customers trust brands that show genuine concern for environment. Sustainable image directly affect purchase decision which affects on consumer choice as well. Future success in international business will depends on how "green" & responsible a brand appears. Sustainability is crucial for global competitiveness and growth, brands must adopt eco-friendly strategies. On other hand price and availability remain key barriers, some consumers avoid eco-friendly brands due to higher cost & limited access. After all awareness and social media plays an important role. Digital platform help spread information & influence opinions about sustainable products. In today's era consumer majorly aware of climate change and prefer ethical, responsible companies. As environmental awareness increases, governments, businesses, and consumers are shifting towards eco-friendly practices such as renewable energy, sustainable production, and waste reduction, sustainability helps protect natural resources, reduce pollution & control climate change. It also supports long-term economic growth by promoting efficient use of resources and improving brand reputation. Overall, in the future sustainable practices will become a standard requirement rather than a choice, ensuring a healthier environment and better quality of life for upcoming generations.

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Bridging the Rural–Urban Startup Divide Through Generative AI Tools

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Abstract: The rural–urban divide creates systemic inequalities for startup founders, concentrating essential resources such as funding, expert guidance, and specialized talent in urban centres while leaving rural areas underserved. This paper proposes that Generative AI (GenAI) can act as a powerful Resource Virtualization (RV) mechanism, effectively substituting these scarce urban resources and democratizing entrepreneurship across geographical boundaries. I introduce a conceptual model postulating that rural GenAI adoption enhances Rural Startup Success and Scalability (RSS), primarily mediated by the degree of resource virtualization achieved. This relationship is moderated by Digital Ecosystem Factors (DEF), such as broadband infrastructure and digital literacy, which determine the effectiveness of GenAI tools. To empirically test this framework, a convergent mixed-methods (QUAN + QUAL) design is proposed. The quantitative phase (survey research, N ≈ 300) will test causal links and hypotheses (H1–H4) using SEM/regression analyses. The qualitative phase (semi-structured interviews, N ≈ 20–30) will explore the mechanisms of RV (RQ1) and the influence of DEF (RQ4) through rich narrative data. The findings inform a three-pronged intervention strategy: 1. Direct GenAI Access (e.g., localized LLMs, content vouchers) to address resource scarcity; 2. Capacity Building (e.g., prompt-engineering bootcamps) to strengthen digital literacy; and, 3. Enabling Infrastructure and Policy Support (e.g., broadband subsidies, vernacular data policy) to improve the digital ecosystem. In conclusion, this study positions GenAI not merely as an efficiency tool, but as a structural equalizer capable of mitigating entrenched spatial resource disparities, fostering inclusive innovation and more equitable economic growth.

Keywords: Rural–urban divide, Startup ecosystem, Generative AI, AI-driven innovation, Digital inclusion, Technological empowerment, Rural entrepreneurship, Urban entrepreneurship, AI-based startup support, Digital infrastructure.

Introduction

Startups are built on fresh ideas and the ability to move quickly. In the past, transforming a concept into a growing business was a long and difficult journey, often requiring significant time, resources, and access to expensive teams for programming, design, or marketing. Today, this process has shifted from a marathon to a sprint, largely due to one transformative tool: Generative Artificial Intelligence (Gen AI). Gen AI can generate content such as text, images, code, and data, functioning not merely as a tool but as a collaborative partner. It has fundamentally changed how startups are launched and scaled, in ways previously unimaginable. However, a persistent gap between urban and rural startups continues to hinder inclusive growth. Essential

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support systems—such as access to funding, expert mentorship, and professional guidance—are concentrated primarily in metropolitan areas. As a result, rural and small-town entrepreneurs face limited opportunities and struggle to compete on equal terms. Addressing this challenge requires more than financial investment; it demands equitable access to knowledge and support. Without intervention, this imbalance continues to widen. In this context, Generative AI tools—such as chatbots and automated content-generation platforms—offer a promising solution. Acting as affordable virtual assistants, Gen AI reduces entry barriers for rural entrepreneurs by providing instant guidance, strategic support, and operational assistance, thereby helping bridge the urban–rural startup divide.

Literature Review

Generative AI and Entrepreneurship

Kusetogullari, A., Kusetogullari, H., Andersson, M., & Gorschek, T. (2025). The paper "GenAI in entrepreneurship: a systematic review..." (arXiv:2505.05523) is a crucial document that maps out the trajectory of Generative AI's influence on new ventures. By synthesizing existing literature, it highlights where research has been successful and, more importantly, where the significant knowledge gaps lie, such as the need for more macro-level studies on GenAI as an external enabler.This systematic review dives into how Generative AI (GenAI) is changing entrepreneurship research. Specifically, it highlights GenAI and Large Language Models (LLMs) as powerful external forces that make it easier to start a business by lowering entry barriers, cutting initial costs, and speeding up the venture development process. This perspective, which views GenAI as an external enabler, strongly supports our focus on how it can help close existing divides.

The Rural-Urban Divide and AI

Bick, A., Blandin, J., & Deming, D. J. (2025). We need to pay close attention to the research showing a developing AI divide across the United States (arXiv:2404.11988). The findings indicate that the areas with the highest awareness and use of Generative AI tools tend to be coastal and metropolitan, while other regions are lagging behind—a trend that could worsen existing disparities.This research characterizes the initial digital divide with respect to emerging Generative AI tools. The findings indicate that early adoption and awareness of GenAI are significantly predicted by factors like education, suggesting that disparities in GenAI adoption could reinforce existing inequalities. This is a crucial counterpoint and challenge your research must address: GenAI may widen the divide if access and literacy are not managed.

AI in Rural Contexts

Mousavi, S., & Alizadeh, M. (2025). Empowering Rural Enterprises with Artificial Intelligence. Journal of Emerging Technologies and Innovative Research (JETIR), 10(6), 195–201.This descriptive study explores the general role of Artificial Intelligence (AI) in empowering small-scale and rural enterprises. It discusses how AI can provide cost-effective tools to enhance productivity, market access, and sustainable growth, offering a compelling case for why your focus on Generative AI specifically is a logical next step in this field.

Conceptual Framework

This framework suggests that the use of Generative AI by rural entrepreneurs can reduce the urban–rural resource gap by virtually replacing scarce city-based support. GenAI adoption acts as the independent variable, resource virtualization as the mediator, rural startup success and scalability as the outcome, and digital ecosystem factors as the moderator

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influencing the strength of these relationships.

Research Questions (RQs)
This study examines how Generative Artificial Intelligence (GenAI) helps rural entrepreneurs overcome resource constraints by analyzing its mechanisms, outcomes, and limitations. Rather than relying on broad assumptions, the research focuses on real-world applications and measurable impacts under resource-scarce conditions.

RQ1: Adoption and Application of GenAI
To what extent do rural business owners adopt GenAI tools, and how are these tools applied across different business functions (such as marketing, operations, finance, and product development) to enable resource virtualization?

RQ2: Impact on Startup Success
How does resource virtualization enabled by GenAI influence rural startup success and scalability? Specifically, does improved access to digital tools translate into measurable outcomes such as increased sales, operational efficiency, market reach, and long-term business sustainability?

RQ3: Mediating Role of Resource Virtualization
Does resource virtualization act as a mediating mechanism between GenAI adoption and rural startup growth, indicating that GenAI primarily drives success by substituting scarce urban-based resources?

Intervention Strategy
The intervention adopts a multi-dimensional approach to strengthen GenAI adoption among rural entrepreneurs by addressing three key constraints: resource scarcity, limited digital skills, and weak infrastructure.

1. Direct GenAI Access and Resource Virtualization Programs(Addressing Resource Scarcity)

- **Virtual Advisory Hubs (Localized LLMs):** Deployment of fine-tuned large language models trained in regional languages and local contexts (e.g., agriculture norms, regional regulations, local business practices). These tools function as always-available digital advisors, providing guidance on market research, financial planning, compliance, and business feasibility—digitally replacing expensive urban expertise.
- **GenAI Content Creation Vouchers:** Provision of subsidized or free access to premium GenAI tools for content writing, graphic design, website development, and basic coding. This enables rural entrepreneurs to create professional digital assets independently, reducing reliance on costly city-based service providers.
- **FinTech and Financial Inclusion Bots:** Integration of GenAI with regional fintech platforms to offer alternative credit scoring, financial literacy support, and expense tracking in local languages, addressing both financing gaps and poor banking histories.

2. Capacity Building and AI Literacy Programs (Addressing Digital Skill Gaps)

- **“Train-the-Entrepreneur” Boot camps:** Practical, application-oriented training focused on prompt engineering and embedding GenAI into daily business activities such as competitor analysis, marketing planning, and product ideation. The goal is to shift entrepreneurs from passive users to strategic collaborators with AI tools.
- **Peer-to-Peer AI Experience Centers:** Establishment of local AI demonstration hubs within startup

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incubators or co-working spaces, managed by experienced users. These centers promote trust, peer learning, and real-world proof of GenAI benefits within the local community.

3. Enabling Infrastructure and Policy Support (Addressing Infrastructure Deficits)

- **Broadband Connectivity Subsidies:** Public–private partnerships to subsidize high-speed internet access for verified rural businesses, addressing the core infrastructural barrier to cloud-based GenAI usage.
- **"AI for Good" Decentralization Policy:** Reallocation of innovation funding toward decentralized programs supporting GenAI solutions for rural challenges (e.g., smart agriculture, remote healthcare), encouraging locally relevant and culturally aligned AI development.
- **Vernacular Language Data Policy:** Government-led initiatives to collect, digitize, and open-access regional language datasets, enabling the development of more accurate and context-sensitive local language models.

Connection to the Conceptual Framework

- **Infrastructure as a Priority:** Strengthening digital infrastructure directly enhances the **Digital Ecosystem Factors (DEF)**, the model's moderating variable.
- **Localized GenAI Systems:** Context-aware, vernacular-language LLMs improve the effectiveness of **Resource Virtualization**, strengthening the mediating pathway.
- **Mandatory Digital Literacy Initiatives:** Practical AI literacy improves GenAI adoption and reduces resistance, reinforcing the independent variable's impact.

Conclusion

Generative AI serves as a digital equalizer by providing rural entrepreneurs with instant, affordable access to knowledge, guidance, and tools traditionally concentrated in urban areas. By virtualizing expertise, GenAI enables fairer access to markets, information, and growth opportunities, contributing to more inclusive economic development.

Limitations

1. **Digital Infrastructure Constraints:** GenAI tools require reliable, high-bandwidth internet. Persistent last-mile connectivity issues in rural areas limit the consistent use of cloud-based AI systems.
2. **High Computational Costs and ROI Uncertainty:** Advanced GenAI usage (e.g., fine-tuned models or API-based access) involves significant computational and energy costs, often making adoption financially unviable for small rural startups.
3. **Foundational Digital Literacy Gaps:** Limited basic digital skills among rural entrepreneurs restrict effective GenAI usage, indicating that foundational digital education is a prerequisite for successful AI adoption.

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Study on Effects of Climate Change in International Trades

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Abstract: Climate change is one of the most major global issues of the 21st century. It not only affects the environment but also effect the trade relations between countries. Rising temperatures, extreme weather changes, and new climate policies are changing production, transportation, and the flow of goods across borders. This research is done to know how climate change affects international trade by analysing its impact on agriculture, policy, and transport systems. Using secondary data from international organizations such as the WTO, IPCC, and World Bank, the research adopts a qualitative to analyse trends and draw meaningful insights. The findings highlight that climate-related risks not only threaten export and import stability but also necessitate adaptive trade policies, sustainable production practices, and international cooperation. The study concludes that addressing climate change through green trade policies and innovation is crucial for ensuring long-term economic resilience and sustainable global commerce.

Keywords: ClimateChange;InternationalTrade;SustainableDevelopment;GreenEconomy;Agriculture; Transport Infrastructure; Environmental Policies.

Introduction

Climate change is affecting prospects for trade and economic development around the world. As international trade serves as the backbone of the global economy, understanding how climate change affects trade dynamics. Changing in weather can damage the transport infrastructure that are used for trade in goods. Changing climatic conditions and the policies introduced to address them are shifting the patterns of comparative advantage, creating risks for countries that depends on climate-vulnerable sectors. This study aims to explore the qualitative relationship between climate change and international trade. Climate change refers. To long-term changes in temperature, rainfall, and weather patterns such as floods, droughts, cyclones, and rising sea levels all of which have serious effects on global production, supply chains, and trade. The rising frequency and intensity and widening geographical spread of extreme and sudden weather conditions due to climate change, pose serious hazard to the transport infrastructure which are required for the smooth and reliable operation of international trade routes. For example, hurricanes and floods can directly damage roads, bridges, ports and railway tracks and break air transport. Policymakers' awareness of these physical risks to trade have been heightened by crises such as hurricane an, Pakistan flood sand drought in Africa ,as these have highlighted the vulnerability of transport infrastructure and international supply chain asterisks emanating from outside the economic and financial system. Over the past few

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decades, international trade has changed so much to globalization, technological advancement, and liberalization policies. However, this growth has also contributed to increased carbon emissions and environmental degradation, result in climate change. The resulting environmental impacts have created new trade barriers, altered production costs, and disrupted supply chains. For example, frequent floods in Southeast Asia, prolonged droughts in South Asia, and typhoons in East Asia have affected agricultural productivity and export performance (World Bank, 2023). These events demonstrate how deeply interconnected environmental stability. The relationship between climate change and trade is not one-directional. While climate change influences trade performance, trade itself can either exacerbate or mitigate climate impacts. The expansion of trade often increases production and transportation emissions, contributing to global warming. However, trade can also facilitate the diffusion of green technologies, promote efficient resource allocation, and foster sustainable development. For example, international cooperation in environmental goods a services trade can accelerate the global transition to low-carbon economies (OECD, 2021).Therefore, understanding this dual nature of trade is crucial for policy makers aiming to balance economic growth with environmental sustainability .Moreover, the transition to a low-carbon global economy presents both opportunities and challenges for Asian economies. On one hand, demand for renewable energy technologies, electric vehicles, and green infrastructure has created new trade prospects for countries investing in sustainable industries. On the other hand, traditional energy exporters, such as those relying on coal or oil, face declining competitiveness as global markets shift toward cleaner energy sources (Asian Development Bank, 2023). This transition underscores the importance of integrating climate adaptation and trade diversification into national economic strategies. In Asia, the situation is particularly complex. The region is home to both highly industrialized economies (such as Japan, South Korea, and China) and developing nations (such as India, Bangladesh, and Vietnam) that depend heavily on climate-sensitive industries. According to the Intergovernmental Panel on Climate Change (IPCC, 2021),Asia experiences some of the world's most severe impacts of climate change, including rising sea levels in coastal cities, unpredictable monsoon patterns, and increasing natural disasters. These environmental pressure shave direct and indirect implications fortrade. Forinstance, agricultural exports from South and South east Asia face volatility due to unpredictable harvests, while industrial exports suffer from energy shortages caused by extreme heat and water scarcity. Ultimately, the study argues that addressing climate change through trade policies is not only an environmental necessity but also an economic opportunity. By integrating climate considerations into trade agreements, promoting green technologies, and supporting sustainable industries, Asian economies can build resilience and competitiveness in a changing global landscape. The findings of this research aim to inform policymakers, scholars, and business leaders about the need for adaptive strategies that ensure both economic and environmental sustainability in the era of climate change.

Literature review

The relationship between climate change and international trade has been widely examined, with studies showing that climate change affects trade both directly-through damage to infrastructure, supply chains, and transport networks-and indirectly by altering countries' comparative advantages (WTO & UNEP, 2009; OECD, 2017). Empirical research indicates that rising temperatures and extreme weather events depress export performance, especially in agriculture and manufacturing, with higher temperatures associated with significant declinesinoutputandexportvalues(DietzenBacheretal.,2019;Authors,2025).Literatureconsistentlyidentifies agriculture, fisheries, forestry, tourism, and labour-intensive industries as the most vulnerable sectors because of dependence on climate-sensitive resources and exposure to environmental risks (WTO & UNEP, 2009; Zia, 2020). Climate change also threatens major transport routes, particularly maritime ports, which further disrupt international trade flows(OECD,2017).Inresponse,countrieshaveincreasinglyintegratedclimateconsiderationsinto trade policies, using instruments such as tariff reforms, standards for environmental goods, resilient infrastructure investments, and climate-related provisions in free trade agreements (Grundke&Arnold,2022;Dekensetal.,2021).Research also highlights inter national tradeas an essential adaptation mechanism capable of reducing climate-induced food insecurity by facilitating movement of food from surplus to deficit regions; under favorable trade policies, global hunger projections under climate change scenarios significantly decrease (Janssen et al.,2020).Further more, global governance mechanisms such as environmental clauses in trade agreements, border carbon adjustments, and climate clubs are being explored to align trade systems with climate goals, although their effectiveness varies due to weak enforcement and unevenadoptionacrosscountries(Economies,2021).Despitetheseinsights,scholarspoint out gaps such as limited evidence on long-term structural trade shifts due to climate change and insufficient empirical evaluation of adaptation policies in developing countries (Dietzen Bacher et al., 2019; Dekens et al., 2021). Overall, the literature shows that climate change significantly shapes international trade patterns, disproportionately affects climate-sensitive sectors, motivates countries to reform trade policies for resilience, and requires coordinated global measures to mitigate negative impacts and enhance adaptive capacity.

Objectives of the Study

1. The main objectives of this study are:
2. To understand how climate change affects inter national trade.
3. To identify the sectors most affected by climate change.
4. To study how countries are adapting their trade policies in response.
5. To discuss possible measures to reduce negative trade impacts.

Research Methodology

This study relies on secondary data gathered from international reports, journal articles, and official publications of WTO, World Bank. Data were analysed qualitatively to understand trends and draw meaningful conclusions.

Discussion and Analysis

Impact on Agriculture

One of the most sensitive sectors that impact by climate changes is agriculture. Changes in temperature, resulting in heat waves and degraded land, and changes in precipitation levels, causing water stress and drought, can all damage agricultural and rise up food prices. Heat stress also affects agricultural workers, impacting productivity. These factors affect the trade of food products and manufacturing sectors, such as food processing ,that are dependent on climate-sensitive agricultural inputs. Developing economies in sub-Saharan Africa and South Asia are particularly vulnerable to this kind of damage ,as they are heavily dependent on agricultural exports and large proportions of their populations are employed in the sector. Concerns about food insecurity exacerbated by climate change can cause countries to restrict crop exports in times of stress. Exporting countries lose revenue while importing countries face price rises. Example: Floods in South Asia and droughts in Africa have reduced exports Of rice, wheat, and coffee, disturbing global markets.

Impact on Infrastructure and Transport

Trade depends heavily on infrastructure like ports, ships, and roads. Extreme weather, such as hurricanes and floods, can damage critical infrastructure like ports, roads, bridges, and railways, disturb the flow of goods. Sea-level rise and droughts can rise problem in shipping routes like the Panama Canal and the Yangtze River impassable or severely limited, causing delays and increased costs. Heat can damage runways, make it harder for planes to take off ,damage rail tracks ,and cause roads to buckle. Increased costs: Milder winters in some areas may reduce maintenance costs, but the overall costs for repairing and replacing infrastructure damaged by climate change are likely to increase significantly. Extreme storms And floods disrupt supply chains. Example: The 2022 floods in Pakistan stopped textile exports for months, affecting global supply chains. These disruptions increase Shipping costs and insurance expenses making trade more expensive.

Policy and Regulatory Impact

Governments are now introducing new climate-related trade policies. International organizations like WTO promote climate-friendly trade rules to balance economic growth with environmental protection. New regulations like carbon border adjustments and varying decarbonisation standards create potential for disputes and trade frictions. Policies aimed at reducing carbon dependency are causing shifts in competitiveness, particularly for energy-intensive industries and those reliant on fossil fuels. Conversely, countries with abundant renewable energy resources may gain an advantage. Governments are using "green" procurement policies to steer markets toward low-carbon products and services, stimulating innovation and creating new markets for green goods.

Tourisms

Tourism can be heavily affected by extreme weather and climate events. These events Can cause immediate destruction to tourist facilities or lead to gradual changes in climate that make destinations less attractive over time. They can also disrupt transportation, making travel difficult. For instance, after the 2003 tsunami, Thailand saw a significant drop in tourist arrivals, which led to a decline in employment. Similarly, Portugal continues to face challenges in it Tourism sector due to damage caused by recurring wildfires. Gradual shifts in temperature and rising sea levels also threaten tourism in areas like ski resorts, which depend on steady snowfall, and coastal destinations, where the beauty of beaches and marine life-such as Australia's Great Barrier Reef- is at risk from climate-related damage to ecosystems and biodiversity

Suggestions and Policy Measures

1. Promote Green Technology: Encourage investment in renewable energy and low-carbon manufacturing.
2. Climate-Resilient Infrastructure: Strengthen ports ,roads ,and logistics systems to withstand extreme weather.
3. Diversification of Trade: Countries should reduce dependence on climate-sensitive sectors like agriculture.
4. Adopt Global Standards: Promote carbon-neutral products and sustainable supply chains.

Conclusion

Climate change is already affecting international trade with physical disruptions, changing comparative advantages, and policy-driven price changes It is no longer environmental concern - it is a trade and economic issue as well. Rising temperatures, unpredictable weather, and stricter environmental laws are changing how countries trade with each other. To reduce negative effects, nations must Invest in climate-resilient infrastructure. Support green technology industries. Cooperate under organizations like the WTO-If countries work together, climate-friendly trade can become a strong driver of sustainable global growth. If proactive measures are taken now, international trade can continue to grow without harming the planet.

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Enhancing Machine Learning Optimization Using Quantum-Inspired Evolutionary Strategies

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Abstract: Machine Learning has changed the world over the past few years. Optimization, which is responsible for its performance, still faces some problems such as Local minima, slow convergence, and high computational cost. This research proposes to integrate Quantum-Inspired Evolutionary Strategies to enhance optimization of Machine Learning models. By implementing principle of quantum mechanics such as superposition, amplitude measurement, rotation gate update and evolutionary selection. This study explores that by implementing QIES optimization techniques in modern ML optimization problems such as local minima and slow convergence can be solved. This study conducted an experiment using python, and the results of experiment compared traditional algorithms with QIES-enhanced method to measure improvements in accuracy, convergence time and robustness. This study used traditional algorithms like Genetic algorithms (GA) and Particle Swarm Optimization(PSO) to compare with Quantum Inspired Evolutionary Strategies (QIES).

Keywords: Quantum Principle, Machine learning, Optimization, Quantum-inspired Algorithms.

Introduction

Optimization is significant part of machine learning because without optimization ML models cannot learn simply. In the context of Machine learning, optimization refers to find best parameters which reduces or minimize the loss function so that model can perform as accurately as possible on unknow data. Traditional algorithm like Genetic Algorithm (GA), and Particle Swarm Optimization (PSO) have been used in machine learning, but these algorithms have some limitation. When it comes to dealing with complex and high dimensional optimization problems. If they get trapped in local minima, slow convergence then these algorithms may fail to achieve optimal solution. But, QIES are highly efficient in enhancing machine learning optimization due to their strength of combining the strengths of evolutionary algorithms with the principle of quantum mechanism. QIES are faster convergence and higher robustness when dealing with complex and high dimensional problems. This study used MADELON dataset which is high-dimensional and logistic Regression classifier as base model.

Literature Review

Over the past few years many studies have done on Machine Leaning optimization. Some studies have done on machine learning optimization using traditional algorithms and these algorithms are efficient to train model to some extend because they face problems such as getting trapped in local minima, slow convergence

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and high computational cost. To address these issues researches used principle of quantum mechanics with these algorithms. Agarwal et al [2] proposed an annealing levy QPSO where different principles of quantum mechanics were applied, which include quantum superposition, quantum rotation gate and entanglement. It turned out to be outperforming the corresponding non quantum variant and gained better accuracy and convergence speed with less cardinality. In 1996, Narayan et al [4] for the first time integrate quantum theory with evolutionary algorithms. Proposed the idea of quantum genetic algorithms and provided a new vision for the integration of quantum computing and evolutionary algorithms. Jun Sun et al [5], proposed modeling PSO particles using quantum mechanics principles. The quantum-based PSO algorithm gained better global convergence and avoids getting stuck in local minima. Ram et al [6] proposed a quantum genetic algorithm (QGA) where quantum rotation gate was applied to update the quantum bits. They illustrated their quantum proposed algorithm outperformed then the non-quantum variant of GA. Previous studies shown that by implementing quantum principle in ML optimization can solve traditional algorithm problem and this study explores QIES to analyze this.

Methodology

Overview

This study focuses on enhancing machine learning optimization using Quantum-Inspired evolutionary strategies. This study conducted coding based practical on conventional algorithm like Genetic Algorithm (GA) and Particle Swarm Optimization (PSO) to analysis their result, afterwards Experimented Quantum-Inspired Evolutionary Strategies to compare with traditional algorithm.Madelon dataset is used to implement each algorithms using Logistic regression as the base classifier. The aim of this experiment is to find out the optimization efficiency, convergence speed and classification accuracy of each algorithm.

Dataset

As a benchmark dataset, the Madelon dataset was used. It contains 2600 samples and 500 features (all numeric). In this study, MADELON serves as ideal for identifying the robustness, search capability and feature selection efficiency of the proposed Quantum Inspired Evolutionary Strategies.

Machine Learning Model

In this study, Logistic Regression was used as the base model for evaluating the quality of feature subsets generated by Quantum Inspired Evolutionary Strategies. Due to its interpretability and stable performance on high dimensional datasets, it is used.

Genetic Algorithm (GA)

The Genetic Algorithm is a population-based metaheuristic, which is inspired by natural selection, where each candidate solution is encoded as “chromosome”. It starts from a randomly initialized population then repeatedly selects fitter individuals, recombines them (crossover), and introduces random variation (mutation) to generate new candidate solution.

Particle Swarm Optimization

It is a population-based algorithm. In Particle Swarm Optimization, each solution is called particle and a group of these particle forms a swarm. Each particle flies in the search space with a certain speed and it is adjusting its position based on its own best solution found so far (personal-best, pbest) and the best solution found by entire swarm so far (global-best, gbest). By gathering self-learning and social-learning, particle moves towards better solution.

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Quantum Inspired Evolutionary Strategies (QIES)

Quantum Inspired Evolutionary Strategies (QIES) is a framework that synthesizes quantum computing principles with classical Evolutionary Strategies (ES) mechanism. QIES implements a hybrid structure that combines quantum exploration and evolution-strategy-based exploitation, which allows it to efficiently search very large, high dimensional and deceptive optimization spaces. QIES achieves the final solution by repeatedly sampling from quantum states, instructing the search toward the global best using quantum rotation. Using ES mutation to refine and escape local minima, finally collapsing the Q-bit into the optimal solution.

Results

Comparison Table

Algorithms	Accuracy	Selected Features	Fitness score	Convergence stability
QIES	~0.70-0.72	22-30	Best	High
GA	~0.62-0.68	35-45	Medium	Moderate
PSO	~0.62-0.63	45-80	Weak	Low

Experimental results are shown in above table. The table show the accuracy, selected features out of 500 and convergence stability of each algorithm. It can be clearly seen that QIES outperform from traditional algorithms, GA and PSO in accuracy and selected features. This shows that QIES is the most efficient and stable algorithm.

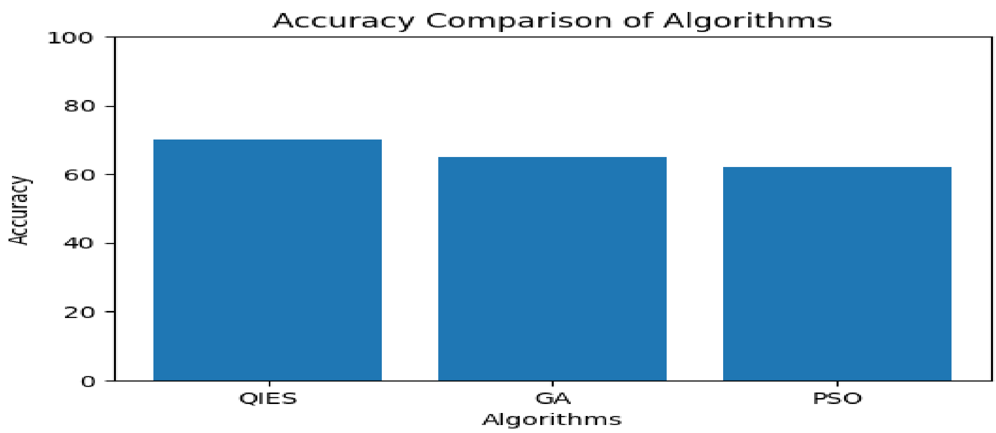

Figure 1.1

Figure 1.1 shows the graph of accuracy of each algorithm. The vertical axis is accuracy of algorithm and horizontal axis shows algorithms. In this GA gains accuracy around 65 and PSO gains around 61, QIES gains most and best accuracy of around 72. As a result, QIES outperform with highest accuracy among all.

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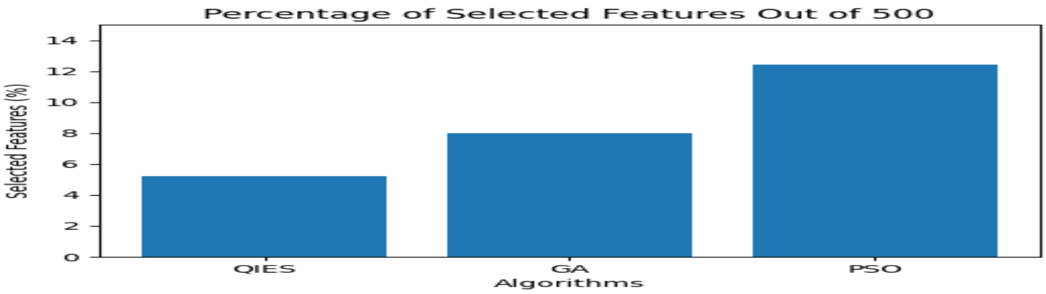

Figure 1.2 indicates how many features are selected by individual algorithm in order to get optimal solution. The vertical axis is the selected features in percentage by each algorithm. There is total 500 features in this experiment. The horizontal axis shows algorithms. An algorithm is better, if it achieves higher accuracy with fewer features. Both Graph (1.1 and 1.2) show that QIES gained higher accuracy with fewer features.In summary QIES are better than classical algorithm when dealing with high dimensional and complex dataset. Because when algorithms are tested against small dataset both classical and QIES performance were similar.

Conclusion

This paper presents a comprehensive experiment on ML optimization using Quantum Inspired Evolutionary Strategies. QIES not only have potential to solve classical algorithm but also creating new vision toward more efficient AI systems for the future. Future work should be focused on implementing QIES in real world ML application and making them more accurate and better.

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Social Equality: Sustainable Business Practices and Inclusive Growth on Visit Bharat

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Abstract: This paper examines the role of sustainable business practices in fostering social equality and inclusive growth in India, with a particular focus on gender equality. It highlights traditional models and approaches that can be leveraged to create a more equitable and environmentally conscious business environment.

Introduction

India stands at a pivotal moment in its developmental journey. The vision of Vikshit Bharat (Developed India), articulated by the government and civil society alike, is not merely an aspiration for economic prosperity but a holistic call for an inclusive, equitable, and environmentally sustainable society. Achieving such a vision demands that social equality—the principle that every individual, irrespective of caste, religion, gender, class, or ability, has equal rights, opportunities, and dignity—be embedded at every level of national progress, especially within the private sector.Sustainable business practices have emerged globally as a framework where firms integrate environmental, social, and governance (ESG) dimensions into their core strategy. For India, this translates to:

1. **Environmental stewardship** – reducing carbon footprints, conserving water, minimizing waste, and adopting renewable energy, all while respecting ancient concepts such as Panchamahabhuta (the five elements of nature) that view humanity as inseparable from earth, water, fire, air, and space.
2. **Social responsibility** – ensuring fair wages, safe workplaces, inclusive hiring, and respect for human rights, echoing traditional philosophies like Vasudhaiva Kutumbakam ("the world is one family") and Sarvodaya ("the welfare of all").
3. **Economic inclusivity** – fostering livelihoods for marginalized groups, especially women, through skill development, micro-finance, and market access, thereby advancing gender equality.However, social equality and gender equality remain unfinished agendas in India's growth story. Despite policy advances such as reservations for women in local governance and anti-discrimination laws, women and marginalized communities continue to face structural barriers to economic participation, unequal pay, limited leadership opportunities, and disproportionate exposure to environmental risks.

Against this backdrop, traditional models become a potent source of innovation for modern businesses. For example:

- Gandhian trusteeship encourages businesses to function as stewards of societal wealth rather than mere profit maximisers.

- Self-help groups (SHGs) rooted in community mutual aid have been scaled by organizations like SEWA to empower poor women economically and socially.

Embedding such Indigenous wisdom with contemporary ESG principles can enable businesses to become agents of inclusive growth, simultaneously advancing social equality, gender parity, and environmental sustainability.

This paper thus examines how sustainable business practices, informed by traditional Indian approaches, can accelerate social and gender equality as pillars of Vikshit Bharat. It does so through:

- A conceptual mapping of sustainable business frameworks aligned with ancient Indian values.
- A case study of SEWA, illustrating practical mechanisms of gender-focused economic and social empowerment.
- Policy and practice recommendations for businesses, governments, and civil society.

Case Study: SEWA – Empowering Women through Sustainable, Inclusive Business Models

Context

Founded in 1972 by Ela Bhatt, SEWA is a trade union of self-employed women workers in the informal sector of India – street vendors, home-based artisans, agricultural laborers, construction workers, etc. Over 90% of India's women workers are in the informal economy, lacking social security, fair wages, or a voice in policy. SEWA emerged to address this structural gender and social inequality by weaving together economic empowerment, social inclusion, and environmental sustainability rooted in Gandhian and traditional Indian values of mutual aid, self-reliance, and Vasudhaiva Kutumbakam (the world is one family).

Objectives of SEWA's Intervention

1. **Economic equality** – secure stable incomes, access to credit, skill upgrading, and market linkages.
2. **Social equality** – build solidarity, negotiate with state and private actors, provide health/childcare, eliminate caste/gender discrimination.
3. **Environmental sustainability** – promote organic farming, eco-friendly crafts, waste recycling, and water conservation among its members.
4. **Gender equality** – foreground women's leadership at the household, community, and governance levels.

Methodology & Sustainable Business Practices

Cooperative model of self-help groups (SHGs). Small groups of 10–20 women pool savings, access microloans from SEWA Bank, and undertake collective economic activities. The model mirrors Sarvodaya (welfare of all) by spreading risk and benefits across members.

Value-chain integration. SEWA has built end-to-end sustainable supply chains for crafts, garments, and agricultural produce:

- Organic certification for farmer groups, reducing pesticide use and enhancing soil health.
- Eco-friendly dyes and natural fibres for artisans, lowering water consumption.
- Local market hubs that reduce transportation emissions.

Capacity building. Regular workshops on financial literacy, health, digital tools, and leadership embed Gandhian trusteeship – members view enterprises as a trust for the community, not just profit.

Social safeguards. SEWA runs churches, health clinics, insurance schemes, and legal aid cells, ensuring a holistic safety net.

Outcomes (quantitative & qualitative)

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Metric 2022–23 Data (SEWA Annual Report)
Members: 2.3 million women across eighteen states
Economic impact: ₹ 4,500 crore annual turnover of member enterprises
Gender leadership 70% of SHG leaders are women who now sit on local panchayat bodies.
Environmental45,000+ farmers shifted to organic practices, saving ~1.2 billion liters of water annually.
Socially, 95% of members report an improved sense of dignity and reduced violence at home.
Stories from the ground illustrate impact: Laxmi, a vegetable vendor in Ahmedabad, accessed a ₹15,000 microloan via her SHG, expanded her stall, and now funds her two daughters' education. She also became a community health volunteer, spreading awareness of menstrual hygiene using eco-friendly cloth pads produced by another SEWA unit.

Challenges

- Scaling sustainability across highly heterogeneous informal sectors.
- Balancing traditional values with modern regulatory demands (e.g., ESG reporting).
- Persisting patriarchal norms that resist women's leadership beyond the SHG.

Lessons for Sustainable, Inclusive Business

1. Blend tradition with modernity. Gandhian mutual aid + ESG metrics = scalable, inclusive model.
2. Comprehensive approach. Economic gains are insufficient without social and environmental safeguards.
3. Community ownership. Women-led structures ensure gender equality is intrinsic, not an afterthought.
4. Policy constructive collaboration. Governments can amplify impact by recognizing SHGs as formal micro-enterprises.

Relevance to Vikshit Bharat

SEWA demonstrates that social equality, gender equality, and environmental sustainability are mutually reinforcing when businesses operate as social enterprises rooted in Indigenous values. Its model can be replicated across sectors to fulfil the Vikshit Bharat aspiration of inclusive, sustainable development.

"Traditional Models"for the paper "Social Equality: Sustainable Business Practices and Inclusive Growth on Vikshit Bharat – socially responsible and environmentally through traditional model embracing approaches, with a focus on gender equality."

India's cultural heritage is a repository of holistic, community-centric philosophies that treat humans, nature, and society as interdependent. When reinterpreted through a modern business lens, these philosophies become traditional models that embed social equality, gender parity, and environmental stewardship into the DNA of enterprises. Three of the most resonant models are Vasudhaiva Kutumbakam, Sarvodaya, and Gandhian Trusteeship, each illustrated below with contemporary exemplars.

1. Vasudhaiva Kutumbakam – "The World is One Family."

Concept. Originating from the ancient Sanskrit text Maha Upanishad, this phrase conveys that all beings are members of a single, interconnected family. It implies mutual responsibility, respect for diversity, and an ethic of care for the weakest members of the family.

Modern business translation.

- Inclusive stakeholder capitalism: Companies treat suppliers, local communities, employees, and the environment as "family members" with rights and duties, not merely as externalities.

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- Cross-caste, cross-gender collaborations: For example, a rural micro-enterprise network in Maharashtra brings together Dalit women and upper-caste men to co-produce organic turmeric, breaking caste and gender hierarchies while sharing profits equitably.

Illustrative snippet. The cooperative Lijjat Papad, founded in 1959 by seven women, operates on the principle of "every member is equal and essential." Though a modern women-centric business, its ethos mirrors Vasudhaiva Kutumbakam by treating each worker as a family member with shared ownership and decision-making.

2. Sarvodaya – "Welfare of All."
Concept. Coined by Mahatma Gandhi, Sarvodaya envisions a society where the uplift of the weakest is the benchmark of progress for the whole. It combines economic justice, non-violence, and simplicity with an ecological sensibility.

Modern business translation
- Bottom-of-pyramid (BoP) innovation: Products/services designed for low-income communities at affordable prices while ensuring fair wages for producers.
- Shared value creation: A tea estate in Assam adopts organic farming, pays a premium to smallholder women growers, and reinvests a portion of profits into village schools.

Illustrative snippet. Fabindia sources handcrafted textiles from rural artisans (many of them women from marginalized communities), guarantees a minimum price, and markets them as "heritage products." The model embodies Sarvodaya by improving artisans' livelihoods while preserving traditional crafts.

3. Gandhian Trusteeship
Concept. Gandhi proposed that wealthy individuals and corporations act as trustees of society's resources, holding surplus wealth for the public good rather than for selfish accumulation.

Modern business translation.
- ESG and CSR as trusteeship: Companies allocate a fixed percentage of profits to community development funds focused on gender equity, water conservation, or education.
- Employee ownership schemes: Worker cooperatives where profits are shared equitably, echoing trusteeship of labor.

Illustrative snippet. Amul, India's dairy cooperative, is owned by millions of small farmer members, mostly women. Its profits are recycled into farmer welfare, veterinary services, and rural infrastructure, embodying Gandhian trusteeship.

Synergy with Sustainable Business Practices
- Social equality: All three models embed egalitarian **values**, counteracting caste, class, and gender hierarchies.
- Gender equality: Women are central to the community-focused examples above, reflecting traditional reverence for Shakti (female power).
- Environmental sustainability: Respect for nature is inherent—Vasudhaiva Kutumbakam views earth as a family member; Sarvodaya promotes minimalism; Trusteeship discourages wasteful consumption.

Challenges in Operationalizing Traditional Models
- Cultural reinterpretation: Modern corporate governance structures may dilute the spiritual depth of these concepts.

- Measurement: Traditional values are qualitative; ESG metrics demand quantification.
- Power dynamics: Caste and patriarchy can subvert authentic implementation unless deliberately checked.

Takeaways for Vikshit Bharat

Integrating Vasudhaiva Kutumbakam, Sarvodaya, and Gandhian Trusteeship offers a distinctly Indian pathway to sustainable, inclusive business that aligns with global ESG frameworks while retaining cultural legitimacy. It can accelerate progress toward social equality, gender equality, and ecological balance envisioned for a developed India.

Conclusion

The pursuit of Vikshit Bharat is far more than an economic target; it is an invitation to imagine development as a holistic, equitable, and sustainable journey for every citizen, especially those historically marginalized by caste, class, and gender. This paper has argued that sustainable business practices, when infused with India's traditional wisdom, can serve as a powerful engine for that journey, simultaneously advancing social equality, gender equality, and environmental stewardship.

Traditional models such as Vasudhaiva Kutumbakam, Sarvodaya, and Gandhian Trusteeship translate ancient notions of interconnectedness, welfare of all, and stewardship of wealth into modern frameworks of inclusive stakeholder capitalism, bottom-of-pyramid innovation, and ESG-aligned trusteeship. The SEWA case study concretely demonstrates how a women-centric, informal-sector trade union can operationalize these philosophies: by weaving micro-finance, cooperative ownership, eco-friendly production, and social safeguards into a single, scalable model that uplifts millions of women economically, socially, and environmentally.

The key takeaways for businesses, policymakers, and civilsociety actors are:

1. **Blend tradition with modern metrics**. Adopt ancient values as guiding principles, but embed them within quantifiable ESG, social-impact, and sustainability standards.
2. **Holistic empowerment is non-negotiable**. Economic gains must be accompanied by social dignity, gender parity, and ecological responsibility to be sustainable.
3. **Leverage community institutions**. Self-help groups, cooperatives, and village councils already embody mutual aid; they are fertile grounds for scaling inclusive business models.
4. **Policy synergy matter**s. Government schemes for gender equity, green financing, and informal-sector upskilling can recognize and amplify traditional cooperative structures.

Nevertheless, challenges persist. Re-interpreting centuries-old concepts in a fast-moving, profit-driven market can dilute their depth; caste and patriarchy may reassert themselves if vigilance is lax; and measuring qualitative values like "interconnectedness" against hard ESG data points remains methodologically complex. Addressing these will require cross-sector collaboration, continuous learning, and culturally sensitive innovation.

In sum, sustainable business rooted in indigenous Indian models offers a distinct, authentic pathway to fulfil the Vikshit Bharat promise of inclusive growth that is socially equal, gender equal, and environmentally balanced. If embraced at scale, such an approach could transform India from a developing nation into a developed, harmonious society that honours both its past and its future.

Recommendations

Drawing from the preceding analysis of traditional models, the SEWA case study, and the interplay of social equality, gender equality, and environmental sustainability, the following recommendations are proposed for businesses, policymakers, and civil society actors to accelerate inclusive, sustainable growth toward Visit Bharat.

1. **For Businesses**

1.1. Institutionalizing Traditional Values as ESG Pillars

- Embed Vasudha IvaKutumba am by formalizing a stakeholder-family charter that defines mutual responsibilities toward employees, suppliers, local communities, and the ecosystem, and audit compliance annually.
- Adopt Sarvodaya metrics such as "impact on the weakest" by tracking wage floors, skill-training hours, and community-investment ratios for marginalized groups, especially women and Scheduled Castes/Tribes.
- Practice Gandhian Trusteeship through an earmarked "trust fund" of 2–5% of net profits for gender-focused social and environmental projects, governed by a board inclusive of community representatives.

1.2. Foster Gender-Inclusive Workplaces

- Implement equal-pay audits and transparent career-progression pathways for women across all levels.
- Create flexible, safe work arrangements for informal-sector women (e.g., home-based production hubs with childcare support).
- Sponsor women-led SHGs as vendor/supplier networks, certifying their products as "sustainable & equitable."

1.3. Integrate Eco-Friendly Processes Rooted in Tradition

- Use natural dyes, organic raw materials, and circular waste practices inspired by ancient craftspeople.
- Conduct life-cycle assessments that reference Panchamahabhuta (five elements) to highlight the elements'specific impacts.

2. For Policymakers

2.1. Recognize and Incentivize Traditional Cooperative Models

- Offer tax breaks or low-interest green loans to cooperatives/SHGs that meet ESG and gender-parity benchmarks.
- Incorporate Gandhian trusteeship principles into CSR policy guidelines, mandating a focus on marginalized women and ecological projects.

2.2. Strengthen Gender-Focused Policy Frameworks

- Scale gender budgeting at the state and central levels to fund women-centric sustainable enterprises.
- Enforce reporting standards for gender wage gaps and women's representation in leadership for all registered businesses above a threshold size.

2.3. Promoting Sustainable Infrastructure for Informal Workers

- Develop community-level renewable-energy micro-grids and water-harvesting systems managed by women's collectives.

3**. For Civil Society & Academia**

3.1. Conduct Action.

- Develop case-study repositories of traditional-modern hybrid enterprises, highlighting measurable social, gender, and environmental outcomes.
- Create capacity-building modules for business leaders on Gandhian trusteeship, Vasudhaiva Kutumbakam, and Sarvodaya, taught through experiential workshops.

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3.2. Promote Research on Quantifying Traditional Values

- Design indices that translate concepts like "interconnectedness" into ESG-compatible indicators (e.g., stakeholder empathy scores, element-impact ratios).

4. For Integrated Implementation

- Form multi-stakeholder alliances (business, government, NGOs, academia) around specific sectors such as organic agriculture, handloom, or renewable micro-energy, using a shared value framework rooted in traditional models.
- Monitor and evaluate initiatives using a triple-bottom-line dashboard that explicitly reports social equality, gender equality, and environmental metrics.

Expected Impact

If these recommendations are systematically adopted:

- Social equality will improve through more equitable wealth distribution and the dismantling of caste/gender hierarchies.
- Gender equality will be mainstreamed across formal and informal economies, enhancing women's agencies and leadership.
- Environmental sustainability will be embedded in everyday business processes, aligning India with global climate goals.
- Vikshit Bharat will move closer to its vision of inclusive, sustainable development grounded in its own civilizational ethos.

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The Evolution of Patta Chitra: Navigating Tradition, Commercialisation, and the Digital Marketplace

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Abstract: This research paper explores Patta Chitra, an ancient scroll painting tradition of Odisha and West Bengal, analysing its transition from a ritualistic storytelling medium to a commercial commodity. The study examines the distinct stylistic differences between Odisha and Bengal Patta Chitra, the traditional methods of preparing natural colours and canvas, and the socio-economic shifts caused by modern market demands. Furthermore, it investigates the impact of e-commerce on artisan livelihoods, highlighting the opportunities for global exposure alongside the challenges of digital literacy and the preservation of authenticity. Using a qualitative method based on secondary data, this paper concludes that while modernisation offers economic sustenance, it poses a significant threat to the traditional integrity of this 3,000-year-old art form.
Keywords: Patta Chitra, Folk Art, E-commerce, Cultural Heritage, Commercialisation, Artisan Livelihood.

1. Introduction

The cultural landscape of India is characterized by a rich diversity of traditions, languages, and artistic expressions, where each state possesses distinct art forms that narrate its unique history and way of life. Among these venerable traditions, Patta Chitra is recognized as one of the oldest and most exquisite art forms indigenous to the eastern states of Odisha and West Bengal. The significance of this art form is underscored by the fact that both states have received a Geographical Indication (GI) tag, acknowledging the deep cultural connection between the region and the craft.

1.1 Etymology and Historical Origins

The term "Patta Chitra" is derived from the Sanskrit lexicon, where "Patta" signifies a piece of cloth and "Chitra" denotes painting. Consequently, the term translates to "painting on cloth". Historically, the canvas for these paintings uses cotton or Tessar silk. The tradition is estimated to be over 3,000 years old, with its origins widely believed to be cantered near the Jagannath Temple in Puri, Odisha.

1.2 Cultural Significance

Patta Chitra serves as a visual repository of culture. The paintings typically depict narratives surrounding Lord Jagannath, mythological tales, local folklore, nature, and social awareness themes.

The Bengal Tradition: In West Bengal, the practitioners are known as *Patuas* or *Chitrakars*. They are celebrated for a unique storytelling tradition known as *Pater Gaan*, where the artist sings songs while unfurling long scrolls to narrate the depicted stories. Historically, these

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artisans were itinerant performers, travelling from village to village to earn a livelihood through their art and song.

2. Literature Review

Scholars, art historians, and cultural researchers have extensively studied Patta Chitra due to its rich history and narrative depth.

- **Technique and Identity:** Dinabandhu Pattanaik (2004) emphasizes that the identity of Odisha Patta Chitra is intrinsically linked to the intricate process of preparing natural colours and the *Patta* cloth. He posits that the years spent acquiring these skills make the artwork valuable not only visually but culturally.
- **Narrative Divergence:** Roma Chatterji (2011) highlights the role of Bengal Patta Chitra in social communication. She notes a thematic divergence: while Odisha focuses on religious epics, Bengal incorporates diverse themes ranging from village life to modern events.
- **Adaptability:** Frank Korom (2010) argues that Patta Chitra is not a static art form. His research sees that Bengal *Patuas* have adapted their narratives to include contemporary topics such as health awareness, migration, and politics, proving the art's evolving nature.
- **Comparative Analysis:** Naba Kishore Choudhury (2016) distinguishes the two styles, noting that Odisha's art is refined and decorative, while Bengal's style is expressive and performance-based.
- **Modern Impact:** Recent reports by the Crafts Council of India (2018–2022) suggest that while online platforms increase visibility, they create pressure for faster production, risking authenticity using chemical colours.

Existing literature reveals a gap in detailed research about the long-term sustainability of Patta Chitra in the face of global digital markets, which this study addresses.

3. Methodology

3.1 Research Design

This study employs a qualitative and descriptive research methodology to understand traditional practices and the impact of modern markets.

3.2 Data Collection

The research relies entirely on secondary data; no primary interviews or field surveys were conducted. Data was aggregated from published research papers, academic books, government reports, craft council publications, news articles, and documents from the Ministry of Culture and GI Registry.

3.3 Data Analysis

A thematic analysis approach was used to interpret the data, focusing on painting techniques, economic roles, and the influence of e-commerce.

4. Artistic Composition and Regional Variations

Although Bengal and Odisha Patta Chitra share cultural roots and the use of natural colours, they show distinct stylistic characteristics.

Table 1: Comparative Analysis of Odisha and Bengal Patta Chitra Styles

Feature	Odisha Patta Chitra	Bengal Patta Chitra
Primary Focus	Religiousthemes; Mahabharata, Ramayana, Lord Jagannath.	Mythological stories, social issues, Goddess Durga, folk tales.
Visual Style	Fine, intricate designs; refined and decorative.	Bold lines, thick borders; expressive and lively.
Colour Palette	Traditional palette of black,	Vibrant palette of red, blue,

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	yellow, and white; calm appearance.	and yellow.
Presentation	Visual art (Wall hangings).	Performance-based scrolls (*Pater Gaan*).

5. Material Culture: The Science of Natural Colours

The preparation of materials is a meticulous process that defines the authenticity of the art form.

5.1 Canvas Preparation

The canvas, known as Pata or Pati, is prepared by coating cotton or silk cloth with a mixture of chalk powder, tamarind seed paste, and natural glue. Following this, the surface is polished—first with a rough stone and then with a smooth stone or wooden tool—to create a leathery, even surface ready for painting.

5.2 Indigenous Pigments

Artists traditionally prepare their own colours from natural ingredients to ensure longevity.

Table 2: Traditional Sources of Natural Pigments

Colour	**Source Material**
White	Chalk powder or powdered conch shells.
Black	*Bhusakali* (Lamp soot) or Burnt coconut shell powder.
Yellow	Raw Turmeric or *Haritala* stone.
Green	Crushed fresh leaves (e.g., bean leaves).
Red	*Hingula* stone (Cinnabar).
Blue	*Aprajita* flower or *Khanda Neela* stone.

5.3 Tools

Brushes are handmade to suit specific needs: thicker brushes are created from the Kaya root, while fine brushes for detailing are made using mouse hair, with handles carved from wood.

6. Commercialisation and Changing Market Trends

6.1 Expansion of Product Lines

The increasing demand for Patta Chitra has transformed it from a scroll-based tradition to a commercial product line involving sarees, wall hangings, home décor items, and fashion accessories. This shift has generated new income streams and expanded the audience beyond rural communities.

6.2 The Cost of Commercialisation

However, fast-changing market trends create pressure on artists to produce artwork quickly. To meet deadlines and customer expectations, artisans often compromise on traditional methods.

- **Synthetic Substitution:** Instead of preparing natural colours, many artisans use fabric colours or chemical paints because they are cheaper and faster to apply.
- **Loss of Detail:** This affects the originality of the art, as the fine lines and detailing that represent the true identity of Patta Chitra are reduced for quicker production.

7. The Digital Transition: Artists and E-commerce

7.1 Empowerment through Disintermediation

The advent of e-commerce has revolutionised the market. By removing middlemen, online platforms allow artists to connect directly with global customers, increasing their earnings. Social media

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provides a space to showcase the creative process and build an audience.

7.2 The Digital Divide

However, the digital shift brings significant hurdles:

- **Digital Literacy:**Many rural artists have limited internet access and low digital literacy, making platform usage difficult.
- **Operational Challenges:** Artists accustomed to traditional methods struggle with managing customer queries, packaging, and digital transactions.
- **Market Pressure:** Online competition fuels the pressure to produce quickly, leading to a loss of cultural authenticity as traditional roots are compromised.

8. Conclusion

Patta Chitra is a living tradition that has survived for millennia by adapting to the changing social fabric. As this study highlights, the transition from village storytelling to global e-commerce presents a double-edged sword. While commercialisation and digital platforms provide essential economic lifelines and global visibility, they simultaneously threaten the purity of the art form through the adoption of synthetic materials and mass-production techniques. To ensure the sustainable future of Patta Chitra, it is imperative to bridge the gap in digital literacy for artisans and promote a market that values authentic, labour-intensive traditional methods over mass-produced alternatives.

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A Study on Consumer Trust, Security and Privacy Concerns of Neo Banking Services in India

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Abstract: This study examines how consumer trust, security assurance, and privacy expectations shape confidence in neo-banking services in India. The purpose is to reposition these concerns not as barriers to adoption, but as core design elements that determine the long-term viability of digital-only banking models. People generally feel more secure when the platform makes its safety measures clear and shows that their money and information are being protected. Privacy concerns also matter a lot, because users share their details only when they feel the platform is careful and responsible with their data. When these aspects come together, they help build a sense of confidence and make consumers more comfortable using neo-banking services. What makes this study different is the way it connects trust, security, and privacy as three related ideas that shape how people accept and approach neo-banks in the Indian context.

Keywords: Consumer Trust, Digital Security, Privacy Concerns, Neo-Banking.

1. Introduction

In India, the way people manage their banking is shifting pretty quickly. A lot of people who once depended on visiting a branch now prefer doing most things on their phones. Neo-banks, which run completely through apps without any physical branches, have started becoming a popular choice for those who just want something simple, quick, and not too complicated. This shift is largely driven by rising smartphone use, everyday dependence on UPI, and a growing interest in banking that feels easy and convenient.

Even though a lot of people are curious about neo-banks, many still hold back because they aren't completely sure they can trust them. They often worry about whether their money is really safe, how their personal details are being handled, and what support they would get if something went wrong. People feel a lot more at ease when the app simply explains what it's doing to protect them, instead of using heavy technical terms. Clear, honest communication usually reassures users far better than long and complicated explanations.

What makes this study a bit different is that it doesn't look at trust, security, and privacy as separate topics. In real life, people don't break these things apart — they just think about whether the app feels safe overall. Their trust, their worries about data, and how secure the platform seems all mix together when they decide whether or not to use a neo-bank.By examining how these factors connect, the study helps explain what really influences

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someone's willingness to use a neo-bank in India.

2. Research Objectives

The main aim of this study is to see how people's trust, their sense of security, and any worries about privacy influence their decision to start using neo-banking services and continue with them in India.

1. To understand how much people know about neo-banks and how much they trust them, especially across different age groups and backgrounds.
2. To study how users feel about the security features neo-banks offer, and whether these protections are explained clearly enough for people to feel safe.
3. To look at privacy worries—like what data is collected and who can see it—and how these concerns affect people's confidence in using neo-banks.
4. To see whether trust acts as the connecting factor between security, privacy, and a person's decision to use or continue using neo-banking services.
5. To give practical suggestions to neo-banks, partner banks, and regulators on how they can build trust through better security, clearer privacy information, and simple guidance for users.

3. Literature Review and Market Context

3.1 The Rise of Digital Banking in India

Banking in India has changed a lot over the years. Earlier, people had to go to the branch for almost every small thing, and most work happened only during fixed hours with the help of bank staff. Slowly, things started to shift when internet banking came in, and later mobile apps made it even easier — people could check their balance, pay bills, or send money without needing to visit the bank at all.

Neo-banks are basically the next step in this whole shift. Instead of starting with branches and then adding digital services, neo-banks began straight as app-based banks. Everything happens through the phone—opening an account, sending money, getting help—without any branch in the picture.

India, in particular, has taken well to this idea. UPI becoming part of daily life, the Digital India push, and rules that allow neo-banks to partner with licensed banks have all helped them grow fast. This setup lets them offer modern digital banking while still operating under proper supervision.

3.2 Consumer Trust in Digital Financial Services

Trust represents a foundational concept in financial services. Consumers entrust financial institutions with substantial assets and sensitive personal information—requiring confidence that institutions will protect these assets and data, manage them appropriately, and provide transparent information about their status. Traditional banks built trust through decades of physical presence, government regulation, customer service quality, and demonstrated commitment to consumer protection.

3.3 Security as Trust Foundation

Security represents a primary mechanism through which consumers develop confidence in digital financial services. Robust security measures—encryption protecting data in transit and storage, authentication mechanisms preventing unauthorized access, fraud monitoring detecting suspicious activities, and incident response procedures—provide both objective protection and psychological reassurance.

3.4 Privacy Concerns in Digital Banking

A lot of people feel uneasy about privacy when they use digital banking. Some don't really know what kind of data is being taken or why it's even needed. Others worry if their details might be shared somewhere else, or how long the bank keeps that information.A lot of people also aren't sure if they really have any control over what happens to their data once it's collected. And with so much talk lately about data protection in India, plus things like the GDPR being mentioned everywhere, people have started paying a lot more attention to how their personal information is being used.

4. Research Methodology

4.1 Research Design and Approach

This research employs secondary data analysis methodology, synthesizing existing research, published studies, industry analyses, and data-driven insights from peer-reviewed literature and professional research conducted between 2021 and 2025. Secondary data analysis methodology offers particular advantages for examining neo-banking phenomena where primary data collection would require substantial access to:

- Comprehensive consumer survey data across multiple neo-banking platforms and demographic segments
- Detailed security incident and breach data currently under regulatory review
- Proprietary consumer behavior tracking across neo-banking adoption journeys
- Extended longitudinal observation of trust development over time
- Using secondary data helps because it lets me rely on work that has already been done in this area. It also makes it easier to look at results from different studies, see what keeps showing up again and again, notice where things differ, and put everything together to get a clearer picture of the topic.

4.2 Data Sources Identified

For the secondary data part, I went through different kinds of sources to collect whatever information was already available on this topic. This included research articles that talk about digital banking, how people behave with financial services, and issues related to security and privacy in fintech.

I also looked at conference papers and working papers that discuss neo-banking in detail, especially studies on adoption, security views, and trust—both in India and outside.

I also used different industry reports — things like documents from consulting companies, fintech organisations, and banking groups that track what's happening in the market and how people are actually using neo-banks.

4.3 Data Collection and Analysis Process

To pick the sources for this study, I mainly focused on research that talked about trust, security, or privacy in digital banking or neo-banking. I also looked for studies that used actual consumer data, like surveys or behaviour-based findings. Most of the material was taken from work published after 2020 so it reflects the current digital banking situation. Another thing I checked was whether the studies explained their methods clearly, including things like sample size and how they analysed the data.

For the data part, I mainly pulled out the important points from each study, like their findings, the numbers they reported, how they ran the research, and anything else that helped explain the context. I paid closer attention to things such as how security, privacy, trust, and adoption were related, along with any demographic details about the people in the study. I also compared results from different neo-banking platforms or user groups to see how they differed. Overall, the idea was to understand how these factors connect and why they matter in people's decision to use neo-banking.

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4.4 Scope and Limitations

This research focuses specifically on consumer trust, security, and privacy concerns in neo-banking services in India. The analysis draws primarily on research examining digital-only banking platforms operating through regulatory partnerships with licensed banks in India, rather than broader fintech services or payment applications.

5. Key Findings and Analysis

5.1 Consumer Awareness and Trust Gap

Consumer awareness of neo-banking services is growing rapidly, particularly in metropolitan and tier-1 cities where digital infrastructure, smartphone penetration, and digital literacy support technology adoption. However, awareness levels remain significantly lower than for traditional banks—consumers can name and describe traditional banks with far greater facility than neo-banking platforms. Trust levels demonstrate even more pronounced deficits: substantial consumers aware of neo banks express hesitation or distrust regarding use.

5.2 Security as Dominant Adoption Barrier

Security concerns represent the foremost barrier to neo-banking adoption. Research found that approximately 40-45% of potential neo-banking users cite concerns about data breaches, fraud risk, unauthorized access, and cyber attacks as primary reasons for hesitation. Consumers explicitly fear loss of funds through fraud, identity theft through data breaches, and inability to recover from security incidents.

5.3 Privacy Concerns and Data Transparency

Privacy concerns in neo-banking present a more subtle but equally important barrier than security fears. Privacy concerns in neo-banking often create a different kind of worry compared to security issues. Security usually deals with outside threats, but privacy is more about what the bank itself does with a user's information. A lot of people aren't sure about what kind of data the bank collects or why it's even needed. They also wonder if their information is being passed on to other companies, how long it stays stored, and whether they actually have any real control over it.

5.4 Trust as Mediating Mechanism

Analysis of existing research reveals trust functioning as a critical mediating variable between perceived security/privacy and actual usage behavior. Security measures and privacy protections do not directly determine adoption; rather, they build psychological foundation of confidence (trust) that ultimately drives behavioral commitment.

5.5 Demographic Variation in Trust and Adoption

People from different backgrounds don't look at security and privacy in the same way, and this leads to noticeable differences in how they respond to neo-banking services.
Age Differences
Location Effects
Income and Education
Digital Literacy
Partner Bank Reputation

6. Implications for Practice and Policy

6.1 Implications for Neo-Banking Platforms

- Neo-banks need to stop thinking of security and privacy as just rules they have to follow. These two things are actually what make people choose one platform over another. If customers feel safe, they stay. If they don't, they leave. So the first step for any neo-bank is to treat security and privacy as real trust-builders, not paperwork.
- Privacy information also needs to be easier to understand. Instead of long

legal pages that nobody wants to read, neo-banks should break things down into quick, visual explanations. People mainly want answers to basic questions:

- What data are you taking?
- Why do you need it?
- Who else sees it?
- How long do you keep it?
- What choices do I have?

6.2 Implications for Regulators and Traditional Banks

1. One thing the findings make very clear is that regulators and traditional banks play a huge role in helping people feel safe about using neo-banks. A lot of consumers still look to the RBI and regular banks for reassurance, so what these institutions do (and how they communicate it) matters a lot.
2. To begin with, the RBI and other regulators really need to spell out the rules for neo-banks in a way people can actually follow. Most users just want to know who's keeping an eye on these apps, what kind of protection they have if something goes wrong, and where they're supposed to complain if they face an issue. When this information is explained simply, without all the heavy terms, people don't feel lost or unsure—and that automatically makes them trust the whole system a lot more.
3. Regulators should also set some basic security standards that every neo-bank has to follow. This includes things like proper encryption, strong login methods, regular security testing, and clear reporting whenever something goes wrong. Having the same standards for everyone stops companies from cutting corners just to compete.

6.3 Implications for Future Research

1. This study opens up quite a few paths for future research. For example, one useful direction would be to follow consumers over a longer period and see how their trust and usage of neo-banks change as the industry grows, gains more experience, and gets shaped by new regulations.
2. Another interesting angle would be to compare how people feel about trust and security across different neo-banking apps. Each platform communicates differently and offers different features, so understanding what actually makes users feel safer could be really valuable.
3. It would also be worth looking at what happens to consumer trust when there's a security issue or fraud incident. Do people lose trust only in the affected platform, or does it shake their confidence in neo-banking as a whole? And what helps rebuild that trust afterward?

7. Discussion

The Trust-Security-Privacy Nexus

This study shows that trust, security, and privacy don't work as separate pieces — they're all tied together. If people don't feel that their information is safe or that the platform protects their privacy, then trust never really develops in the first place. Security and privacy basically set the base; without them, users won't even think about adopting a neo-banking service. However, their presence alone proves insufficient for generating actual behavioral change. Instead, these objective safeguards must be perceived, understood, and internalized by consumers before they influence adoption behavior.

This implies that neo-banking industry focus must extend beyond implementing security and privacy measures toward communicating them effectively. A neo-bank with superior security measures communicated poorly will outperform a bank with less sophisticated measures communicated clearly—at least until consumers gain experience demonstrating actual security effectiveness. This has significant implications for competitive positioning, marketing strategy, and customer education priorities.

8. Conclusion

- For neo-banks in India, trust, security, and privacy aren't just add-ons — they're what decide whether people will actually use these platforms. Many users still hesitate because they don't fully understand how their money and data are being protected. Even strong security systems don't mean much if people can't see or make sense of them. Clear communication, simple explanations, and genuinely secure systems are what help turn curiosity into actual adoption.
- Neo-banks can't build trust all by themselves. They need support from regulators and their partner banks so that people clearly understand the rules, the safety measures, and who is responsible for what. These apps can make banking a lot easier for many people in India, but that will only happen if users actually feel safe using them. When trust is built into the experience from the start—not treated as something extra—neo-banks have a real chance to grow steadily and become a reliable part of everyday banking.

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A Study on the Impact of Short-Form Video Marketing on Brand Awareness Among Gen Z and Millennials

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Abstract: In the last few years, short video platforms like Instagram Reels and YouTube Shorts have become a key communicative medium for brands due to the increasing demand from Gen Z and Millennial audiences for short, visually appealing content. The research investigates the role of specific elements within short-form videos, namely emotive storytelling, interactivity elements, and the credibility of influencers, in driving brand perception and buying behavior among young consumers in India. Whereas previous research recognizes that short videos are superior to traditional static posts in terms of reaching and remembering, limited work explicitly contrasts the ways in which different age segments within younger audiences perceive this format. With this in mind, this study adopts a descriptive survey methodology with 250 participants from each generational segment to analyze how content format and engagement signals convert into brand awareness and eventual purchase interest. The insights are expected to advise marketers on crafting more effective short-form video strategies that fortify online engagement and translate digital attention to meaningful consumer action.

Key Words: Short-form Video Marketing; Brand Awareness; Consumer Behaviour; Gen Z & Millennials.

1. Introduction

There are many changes happening throughout the Digital world. One of the most noticeable trends is that the consumer's attention is more dispersed than ever before. Not only do we see more and more platforms available each day but also Algorithm-driven; When consumers search for information about brands they will not always see what is relevant to them on the specific platform where they are searching.

In addition to the application of video (and short-form) by brand names, social media platforms (such as Instagram Reels) are a perfect example of this opportunity. These social media platforms serve more of a function as total "discovery tools", linking users with potential & relevant content that is emotionally, informative, entertaining, and motivational—both when purchasing and when socializing. For these reasons, the advent of social media presents an opportunity and a challenge to marketers.

2. Literature Review and Theoretical Framework

2.1 The Evolution of Video Marketing

Video marketing isn't a phenomenon. From TV ads to YouTube videos companies have understood for a time that dynamic visuals attract interest more

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successfully, than still images or written content alone. Yet the rise of short-form video signifies a change, not just a gradual development.

Long-form video generally denotes content lasting between three and twenty minutes. These videos provide room for storytelling, character arcs and intricate messages. They are ideal, for materials, showcasing products and narratives that need background and elaboration[2]. Conversely short-form video condenses communication into fifteen to sixty seconds requiring a level of creative precision.

2.2 Psychological Mechanisms and Attention

The brain processes visuals far faster than text, which is why short-form videos fit so naturally with today's quick, smartphone-driven attention habits.

Each like, comment, or new video triggers small dopamine boosts that keep users engaged—giving brands repeated chances to be seen and remembered.

2.3 Consumer Behavior in the Digital Age

Gen Z and Millennials live seamlessly between the online and offline world—they search, discover, and shop entirely through digital platforms, which strongly shapes their choices.

Unlike older generations who trusted traditional ads, they rely far more on peers and influencers, with a large share of Gen Z finding products directly through influencer content.

2.4 Brand Awareness and Engagement Metrics

Brand awareness refers to the degree to which consumers identify and remember a brand. Conventional methods assess this via surveys and recall assessments. Short-form videos generate engagement rates that far surpass those of content types. Studies show that short-form videos attract 2.5 times engagement compared to long-form videos[11]. While this figure indicates marketing opportunities further analysis is necessary to determine if this engagement effectively leads to increased brand recognition and consumer purchasing actions.

3. Research Objectives and Hypothesis

3.1 Primary Research Objective

This research intends to explore the processes by which short-form video content enhances brand recognition among Gen Z and Millennial audiences, in India.

3.2 Specific Research Objectives

1. To understand how Prospective Recent Engagement Metrics (likes, comments, shares) and Consumer Willingness to Purchase relate to one another.
2. How the Platforms (YouTube Shorts and Instagram Reels) Affect Gen Z and Millennials' Reaction to Short Form Video Content.

3.3 Research Hypotheses

H1: Interactive features in short-form videos (such, as polls, questions and challenges) are positively linked to increased viewer engagement and heightened brand recognition.

H2: Generation Z shows greater interaction with short-form video material, than Millennials.

H3: Metrics of engagement with short-form videos show a correlation with purchase intentions, in both generational groups.

4. Research Methodology

4.1 Research Design

This research utilizes a quantitative method. The quantitative approach facilitates the assessment of trends analysis of relationships among variables and statistical evaluation across demographic categories[12]. This method is especially effective, for examining consumer

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behavior trends in samples and supports the generalization of results.

4.2 Population and Sampling

The study focused on people in India aged 18 to 40 and users of Youtube Shortsand Instagram Reels. Urban areas were targeted for study due to users' higher digital engagement, internet usage, and advertisement interaction than in rural locations.

To balance results, each of the age groups was sampled equally. Having such an evenly distributed sample was very useful for the study, as it allowed for inter-generational behavioral analysis when responsive differences to short-form video content were propagated.

4.3 Data Collection Instrument

The questionnaire was divided into four parts covering demographics, short-form video habits, brand interaction, and purchase behavior, using five-point Likert scales for all key items.A pilot test showed that the questions were easy to understand, reliable, and measured what they were meant to measure.Overall, the tool demonstrated strong internal consistency with a Cronbach's Alpha of 0.82, well above the accepted standard of 0.70.

4.4 Data Collection Procedure

Shared through email WhatsApp and social media channels to guarantee easy access. Participants were provided with guidance, about the study's objectives and what involvement entailed. Taking part was optional and informed consent was secured from every participant before they filled out the survey. The data gathering stage spanned four weeks in 2024.

4.5 Data Analysis Methods

To summarize the sample and main variables, descriptive statistics report summary statistics in the form of frequencies, percentages, means, and standard deviations. Chi-square tests, correlation analyses, and Pearson coefficients were performed in order to examine the relationships that exist between the levels of engagement, purchase intention, consumption, and brand recall. Finally, multiple linear regression was used to see how different content features and platform factors influenced brand awareness and purchase intent.

5. Key Findings

5.1 Sample Characteristics

The ultimate sample included 200 participants with ages of 16- 28 years (Gen Z) and 29-44 years (Millennials). The gender ratio was even 52% female, 48% male. Among all participants 89% interacted with short-form video content at weekly indicating strong involvement with these platforms, within the target audience.

5.2 Short-Form Video Consumption Patterns

Of all respondents, close to 75% indicated that they were using Instagram Reels/Youtube Shorts at least once daily. The amount of time spent on these platforms averages 45 mins (IG Reels) and 38 mins (Youtube Shorts) daily for Generation Z users. This shows an example of just how heavily driven short-form video is within both of these generations' daily lives. As far as content goes, the content preferences differ. Generation Z prefers the latest trends (trending video content, entertainment), whereas the Generation Y prefers content that teaches them how to do something or give their opinion about a certain product.

5.3 Brand Awareness and Engagement

When requested to name brands seen in short-form video content over the month participants recalled an average of 4.2 brands for Gen Z and 3.8 for Millennials. This moderate brand recognition differs significantly from greater engagement metrics indicating that although not all content leads to enduring brand recall the interactions—such as likes, comments and shares—play a crucial role, in building brand awareness.

Interaction with branded content was significantly strong: 85% of participants indicated they engaged with branded short-form videos, such as, by liking (92% of those who engaged) commenting (64%) and sharing (51%).

5.4 Influencer Impact and Credibility

Short-form videos endorsed by influencers showed higher reach and engagement than content produced solely by brands. Clips including influencers with 10,000-100,000 followers (micro-influencers) achieved engagement ratings of 4.2/5 whereas videos, by macro-influencers (1M+ followers) averaged 3.6/5. Notably videos made by brands without any influencer participation averaged 2.9/5 indicating that the presence of influencers greatly enhances campaign impact regardless of their audience size.

5.5 Emotional Response and Content Characteristics

Videoswith emotional appeal scored an average engagement rating of 4.0 whereas emotionally neutral product-centered videos scored averaged only 2.1.Specific content characteristics correlated with brand awareness outcomes:Humor and Entertainment: 89%, Emotive Narratives: 84%, Emphasis, on Problem-Solving: 71%, Educational Benefit: 68%, Exclusive Product Advertising: 38% . These results indicate a ranking in content impact, where entertainment quality and emotional connection significantly outperform conventional marketing methods in generating brand awareness.

5.6 Purchase Behavior and Purchase Intent

A significant 85% of participants admitted that short-form video content affected their buying choices. Notably 35% of these participants stated that short-form video content greatly affected their buying choices while an additional 50% noted an effect. 15% Mentioned a slight influence. These results refute the idea that short-form video functions as a brand awareness medium with little effect on purchases; instead the data shows a clear and quantifiable impact, on consumer buying patterns.

5.7 Generational Differences

Although members of both the Gen Z and Millennial generations spend significant amounts of time watching short video clips, Gen Z tends to watch slightly longer clips on Instagram while Millennials generally view shorter ones on Youtube Shorts. In addition to watching length, how they engage with these types of content varies; Gen Z generally prefers more entertaining content that follows current trends, while Millennials prefer better quality content that provides information or solutions. Because of this difference in content preferences, Gen Z has developed a stronger sense of trust in influencer recommendations than Millennials and is also likely to have higher levels of purchase activity related to items purchased through an online shopping experience.

6. Discussion

6.1 Interpreting Key Findings

Video content that is short in length highly affects Gen Z and Millennial consumers' ability to identify and remember brands, not only because of how often they see an ad but also because of how much they engage with it and how it influences them to take action (i.e., purchase product). Authentic vs. authentic-seeming content and emotional impact are important in creating higher levels of engagement and therefore increased levels of memory for that particular video's message. The research findings also indicate a straight line from influencer content that generates engagement; then that engagement enhances the visibility of the brand;

subsequently increases the likelihood of purchase by the viewer (the actual act of buying the item).

6.2 Theoretical Implications

The above-mentioned findings reveal insight regarding the behaviour of consumers when they are using the internet. Influencers' endorsements provide consumers with social proof in a similar manner to getting advice from someone they trust (a friend); therefore, even though there is no real interaction, there is an emotional tie between consumers and the content creators, resulting in consumers shaping their buying behaviours on what they view from the influencer(s). Lastly, it has been demonstrated that content appearing to be spontaneous has a much greater level of trustworthiness as compared to "professional" or staged-looking materials; when consumers view content that they see to be spontaneous, they see it to be more authentic and will be more inclined to purchase.

6.3 Practical Implications for Marketers

The information in this study gives marketers several key takeaways:
While high-production-value advertisements are a common trend in marketing, many brands are realizing that creating simple, inexpensive and unique video content is often far more beneficial to the brand than is expensive productions. In addition to using micro-influencers in place of high-profile celebrities, companies are likely to see greater success with micro-influencers, as they build a deeper level of trust with their followers, plus greater opportunities for connecting the micro-influencers to specific audiences. Short-form content metrics for measuring engagement, including views, comments, social shares and watch time, also provide a much better indication of what brands can achieve through these methods compared to the effectiveness of traditional media advertising.

6.4 Limitations and Future Research Directions

There are a number of important insights to be gained from this research; however, certain limitations exist that should be noted. The research was mainly conducted in urban cities in India, and it may not reflect habits of others in different types of geography (rural) or with different levels of access to digital technologies. Focusing on future research, researchers should conduct longitudinal studies to follow consumers for a lengthier period of time, examine consumers' psychological responses to different styles of content, investigate the findings of this study in additional countries and cultures, examine any negative effects associated with using short-form videos as a means of marketing, and study the effect of changes to algorithms on a consumer's visibility of brands and their outcomes.

7. Conclusion

As part of the newest form of marketing, short-form video has emerged as a highly significant method for establishing brand association, increasing customer interaction, and facilitating Generation Z and Millennial buying decisions. These clips have proven very successful because more than 80% of respondents to a survey reported that they are influenced in their purchase choices by these types of videos. As an example, although Millennials place great importance on the authenticity of modern blogger content, Generation Z relies heavily on video as a trustworthy means of communicating with brands, which means that brands must select the correct medium to deliver their content to each generation

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Artificial Intelligence and Machine Learning for Regulatory Compliance: Adoption, Challenges, and Future Prospects in Tanzania's Banking Sector

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Abstract: Digitalisation in the banking industry in Tanzania has increased the level of compliance, compelling banks to hasten the integration of Regulatory Technology (RegTech) solutions that are fuelled by Artificial Intelligence (AI) and Machine Learning (ML). This paper focuses on adoption, effects, and issues of AI/ML-based compliance systems in four large Tanzanian commercial banks CRDB, NMB, NBC, and Exim in 2018-2024. The study will measure the level of AI integration and its impact on compliance efficiency using a descriptive and comparative study design through secondary data (bank annual reports, Financial Intelligence Unit (FIU) publications, and bank of Tanzania (BoT) reports). Findings indicate significant performance gains: CRDB decreased false AML notifications by 32 percent, NMB lowered KYC onboarding duration by 52 percent and Exim enhanced fraud detection precision by 11 percent. In spite of these benefits, there are still significant challenges, such as the presence of legacy systems, data fragmentation, high implementation costs, skills gaps, and the lack of a clear AI governance model. The researchers find that AI and ML can significantly increase the effectiveness of regulatory compliance, but sustainable development requires more regulation clarity, better data infrastructure, and more capacity building of institutions. Policy suggestions and national AI compliance roadmap are presented to be followed in the further implementation.

Keywords: Artificial intelligence, machine learning, RegTech, compliance, banking, Tanzania, FinTech.

Introduction

The rise of digital transformation in the banking sector in Tanzania is not a slow process that can be summarized as has been accelerating fast between the year 2018 and 2024 due to the increased mobile services, and regulatory changes in the sector and the growth of asset within the sector. Nonetheless, these developments have brought regulatory attention especially in Anti-Money laundering (AML), Counter-financing of terrorism (CFT) and Know-Your-Customer (KYC) procedures. Paper-based compliance processes have been found to be inadequate, expensive, and full of human factor errors, which is adding to the time lag in the reporting suspicious transactions, and escalating fraud risk. RegTech solutions that utilize Artificial Intelligence (AI) and Machine Learning (ML) have become globally recognized as transformative compliance automation, risk management, and regulatory reporting solutions. As early as 2020, CRDB Bank Plc and NMB Bank Plc in Tanzania started adopting AI-based AML and KYC systems, with the assistance of national programs like the 2023 Regulatory Sandbox by BoT. Regardless of this, there is a paucity of multi-bank evaluation of AI-based compliance in Tanzania. The proposed research aims to address this gap by analyzing how widespread the use of AI/ML is, how efficient compliance is, and what institutional issues hinder the wider adoption of AI/ML

Literature Review

RegTech and AI in Compliance
RegTech uses the digital technologies such as AI, ML, big data, and cloud computing to improve regulatory activities such as AML supervision, fraud detection, and reporting. Research indicates that ML has the capacity to lower false-positive notifications by 25-40 percent and enhance the detection of abnormalities.

Technology Acceptance Model (TAM) - The adoption of technologies is determined by how useful and easy they are to use.

Diffusion of Innovations (DOI) - Diffusion moves out of innovators into laggards; CRDB and NMB are innovators in Tanzania.

Resource-Based View (RBV) - The successful adoption is defined by the presence of skilled staff, quality data, and powerful IT systems.

Institutional Theory - Coercive, mimetic, and normative forces have an impact on banks to implement AI-based compliance systems.

The paper makes a contribution to the three areas:

- **Academic importance**: It adds to the literature in FinTech and RegTech in developing economies by offering an empirical study of Tanzania.
- **Policy implications**: The research conclusions will inform the BoT, FIU, and Ministry of Finance towards the creation of evidence-based AI governance systems.
- **Practical value**: Banks and FinTech providers will know the best practices in relying on AI models in compliance procedures to reduce risk and cost.

Scope and Limitations
The research is limited to the 2020-2024 to cover the post-COVID speed of digital banking. It includes four Tier-1 commercial banks CRDB, NMB, NBC, and Exim as they report similar data and comprise more than 70 percent of the sectoral assets (BoT, 2024). The study is based entirely on secondary information in annual reports, regulatory bulletins, and credible consultancies (Deloitte, 2024; KPMG, 2023). The drawbacks are the lack of access to proprietary measures of compliance and the potential delays between the implementation of AI and tangible performance changes.

Research Objectives
General Objective
To evaluate how Machine Learning and Artificial Intelligence may be implemented as RegTech compliance among Tanzanian commercial banks and pinpoint the limitations and the prospective.

Specific Objectives

- To investigate the level of AI and ML implementation in regulatory compliance operations of large banks in Tanzania (2020-2024).
- To determine the effect of AI and ML adoption on the efficiency and accuracy of compliance.
- To determine the institutional and regulatory issues that are impeding successful implementation.
- To suggest a strategic approach to the development of AI-based RegTech compliance in Tanzania.

Hypothesis
Main Hypothesis

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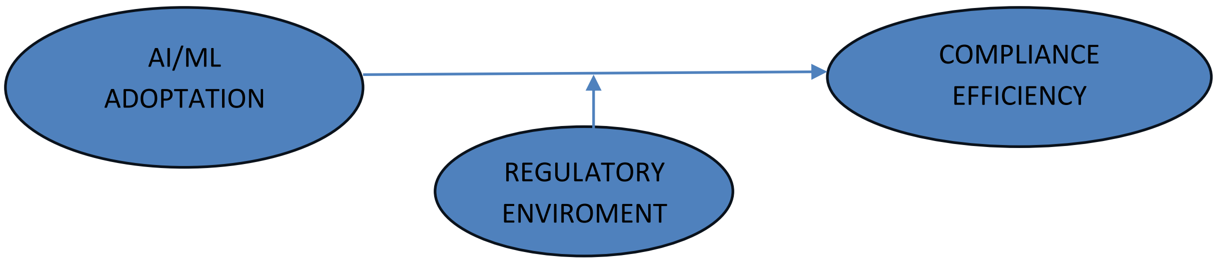
- H1: The adoption of AI/ML can include the effectiveness of RegTech compliance among commercial banks in Tanzania.
- **Supporting Hypotheses**
- H1 a: An increase in the level of AI/ML adoption leads to an increase in the precision of regulatory compliance processes.
- H1 b: Institutional and regulatory obstacles are important impediments to the efficacy of AI/ML-based RegTech.
- H1 c: Employing AI/ML helps banks to use more effective strategic compliance regulations.

- Null Hypothesis
- H 0: The implementation of AI/ML does not have any meaningful impact on the efficiency of RegTech compliance of Tanzanian commercial banks.

Conceptual Framework

Figure 1.1 – Conceptual Framework: AI/ML Adoption and RegTech Compliance Efficiency in Tanzanian Banks



Regulatory Technology (RegTech) Concept

RegTech was developed in the wake of the global financial crisis of 2008 when regulators had to find ways of increasing transparency and oversight (Arner et al., 2017). It is the application of the digital technologies of cloud computing, big data analytics, AI, and ML in order to simplify regulatory procedures, including compliance monitoring, risk reporting, and anti-money-laundering (AML) surveillance. In 2022, the Financial Stability Board (2022) reported that the global investment in RegTech had topped USD 21 billion as of 2023, with AI and ML taking up the top position in the category of the fastest-growing subsector. RegTech caters to two main stakeholders, namely supervisory authorities (SupTech) and regulated entities (banks, insurers, FinTechs). RegTech solutions in banking are used to monitor transactions in real-time, automate KYC due-diligence and generate regulatory reports with fewer human interventions. Such possibilities cut compliance expenses and operational mistakes dramatically (Zetzsche et al., 2020).

Financial Compliance Artificial Intelligence and Machine Learning

AI can be defined as computer systems that are able to execute functions that presuppose human intelligence recognizing patterns, reasoning, and learning. ML can be viewed as an offshoot of AI that enables systems to enhance the results as they become exposed to data (Russell and Norvig, 2021). ML algorithms identify anomalies, categories transactions and project risk scores using past data in compliance. According to empirical studies (PwC, 2023; Deloitte, 2024), the ML has been found to decrease false positives in AML alerts by a factor of 25 -40 percent compared to rule-based systems. Deep-learning models are also beneficial in improving the accuracy of fraud detection because it detects these deviations of behaviour that static algorithms fail to detect.

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Empirical Context

The UK, Singapore, South Africa, and Nigeria, among other countries have already developed mature AI governance structures, which allow the development of RegTech ecosystems. Tanzania is however at the infantile stages of adoption hindered by regulatory uncertainty and limitations by infrastructure.

Methodology

Research Design

A descriptive and comparative design was implemented based on secondary data of 2018-2024. This design was allowed to compare many years, many banks without manipulation of variables.

Data Sources

The secondary data were gathered by:

- CRDB, NMB, NBC and Exim reports.
- BoT Financial Stability Reports.
- FIU AML/CFT publications
- ESAAMLG evaluations
- Reports of international consultancy (PwC, Deloitte, KPMG).

Data Analysis

Descriptive statistics (growth rates, mean changes, percentages) were used to analyse the quantitative data, and thematic coding was performed to identify the common challenges (e.g., data fragmentation, skills gaps) on the qualitative data.

Variables

Independent variable: AI/ML adoption.
Dependent variable: Compliance efficiency
Moderator variable: Regulatory environment.

Results

Sector Growth The assets of the banking sector grew to TZS 28.5 trillion (2018) to TZS 46.5 trillion (2024). There was an increase in digital transactions and automated compliance systems in this era by a very large margin.AI Adoption Across Banks

By 2024, all four banks had integrated AI tools:

Bank	Adoption Level	Key Applications
CRDB	Advanced	AML, KYC, fraud detection
NMB	Advanced	Risk scoring engine, AI KYC
NBC	Moderate	Alerts management, pilot ML
Exim	Moderate	AI AML, predictive fraud models

Compliance Performance Improvements

Bank	Indicator	Before AI	After AI	Change
CRDB	False AML alerts	100%	68%	↓32%
NMB	KYC time	2.5 days	1.2 days	↓52%
Exim	Fraud accuracy	78%	89%	↑11%
NBC	Manual workload	100 baselines	85	↓15%

AI adoption led to significant improvements in risk detection, processing speed, and compliance accuracy.

Regulatory Developments

- Milestones include:
- 2018 AML/CFT guidelines revision
- 2020 digital supervision pilot
- 2023 RegTech sandbox
- 2024 draft National AI Strategy

The regulation is moving in the right direction but it is still disjointed.

Key challenges

- Poor data integration
- High implementation costs

- Shortage of AI-skilled personnel
- Absence of AI-specific compliance legislation
- Ethical concerns about algorithmic transparency

Discussion

The results have validated that AI/ML are important to promote compliance efficiency in the banking sector of Tanzania. In line with TAM, better performance enhanced acceptance in the staff. DOI describes the leadership of CRDB and NMB as innovators, which impacts other banks in adopting them. RBV emphasises the need of greater benefit to institutional capacity banks that had superior IT and skills investments. Institutional Theory reveals that the AI adoption was increased through regulatory pressure by BoT and FIU, even in the presence of gaps in the policy.Nevertheless, there is an uneven adoption. In comparison to other regional players such as Kenya and South Africa, Tanzania is yet to reach the stage of regulatory preparation, so its potential is quite high though it needs the conscious policy changes.

Conclusion

AI and ML already show the potential of transformations in enhancing AML, KYC, and fraud detection compliance in the largest banks in Tanzania. The adoption is rapidly increasing, and the performance is evidently improving. Nonetheless, sustainable implementation is possible by instituting a national AI compliance architecture, investing in human capital, data infrastructure standardization, and institutionalization of ethical AI governance. The key point is that Tanzania is at a strategic crossroad: once the country organizes reforms and investment, it can become a leader of AI-based RegTech in the region by 2030.

Policy Recommendations

Develop national AI governance framework for compliance Covering transparency, auditing, fairness, and data protection. Expand BoT Regulatory Sandbox Allow continuous testing of AI-based compliance solutions. Strengthen technical capacity Introduce AI/data analytics certification for compliance officers. Improve data infrastructure Standardized KYC/AML data formats and a national compliance data warehouse. Establish an AI Ethics Oversight Committee Similar to the EU AI Act and OECD AI Principles.

Managerial Recommendations

Integrate AI into enterprise risk strategies Track AI performance KPIs (false alerts, processing time) Partner with FinTech's for cost-effective tools Appoint Chief Data Officers Continuous staff training on AI ethics and cyber security

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Impact of AI Chat bots on Operational Efficiency, Lead Time Reduction, and Service Productivity in 3PL Companies

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Abstract: The logistics sector is suffering from a great challenge, unlike any other before: On the one hand, it needs to live up to the highly increased demands of the customers for full transparency and instant reactions in real time. On the other hand, it has to handle supply chains that grow more and more complex. The use of conversational AI that is supported by artificial intelligence has been presented as a feasible way to solve the problem. However, a clear understanding of the extent to which the solution has brought about a performance improvement has not been established in the literature. Guided by PRISMA 2020 standards, this systematic literature review of 48 empirical and conceptual studies published between 2018 and 2025 provides an account of the effects of conversational AI on the Third Party Logistics (3PL) operations sector. Our results indicate that chatbots largely enhance operational efficiency through the mechanization of 40, 70% of routine inquiries, greatly reduce the time for a response as they are shortened from hours to just a few seconds, and increase the rate of first contact resolution by 15, 20 percentage points.With the assistance of chatbot, powered visibility tools, 96, 99% monitoring accuracy is attained in logistics coordination, thus giving rise to the pre management of the most likely problems. This, in turn, leads to a 62% drop in complaints and a 40, 60% speeding up of the problem solving process. The performance of customer satisfaction metrics is significantly enhanced, Customer Satisfaction (CSAT) improves by 12, 18 points and Net Promoter Score (NPS) is better by 8, 15 points. This paper provides a conceptual framework that accounts for the ways in which the capabilities of chatbots can be translated into logistics outcomes that can be measured. It also points to the future research agenda that includes such topics as generative AI applications and human, AI collaboration models.

Keywords: AI chatbots, third-party logistics, operational efficiency, lead time reduction, service productivity, systematic review, PRISMA

Introduction

Customers require the information of a delayed shipment instantly, not after a few hours. They also require lucid communication immediately in case of any changes in the pricing. In case the customers believe that the tracking information is incorrect, they have to be convinced of the right information in the shortest possible time. Traditional customer service teams are heavily stressed by this demand and are unable to cope with the increasing number of repetitive inquiries, which leads to their inefficient scaling of operations during peak seasons. This issue can be resolved with the help of AI, powered conversational agents. Such agents are software programs that operate 24/7, deliver instant responses, and keep on learning without interruption.

The transformation of AI chatbots from one of the first proof of concepts to the operational backbone of third party logistics (3PL) companies globally has taken place over seven years. The advent of e-commerce, the growing complexity of global supply chains, and the changing customer demands have led to an urgent requirement for 24/7 availability, accuracy, and quick response that can only be provided by a human team. Large language models and natural language processing technologies have significantly advanced to the point of making sophisticated conversational AI a cost effective option for mid-sized logistics providers, too.

The road to widespread adoption is littered with unanswered questions about the efficacy of these technology systems. Peer, reviewed studies on these systems' impact are scant, and those in the field remain scattered between different disciplines, information systems, operations management, AI design, and customer service excellence, differing in metrics, methodology, and context. 3PL decision, makers are scratching their heads over these issues:

- How much operational efficiency can we realistically expect?
- Will chatbots genuinely reduce lead times?
- Can they improve the customer experience while reducing service costs?

In the absence of integrated evidence, investment decisions become mere guesses rather than being based on data.The present review of existing literature not only confronts the issue of sparse integrated evidence but also substantially narrows down the gap in the field. We distill the insights from 48 studies carefully selected according to rigorous criteria that address the three core research questions:

- How do AI chatbots influence operational efficiency in 3PL companies?
- How do AI chatbots impact lead time reduction and shipment visibility?
- How do chatbots contribute to service productivity and customer satisfaction?

This article helps the practitioners to get acquainted with the main body of evidence and highlights the roles of performance mechanisms and contextual success factors in explaining the effects of chatbots. In addition, it provides the logistics sector with directions for future research.

Methodology

We documented this systematic review of literature adhering to PRISMA 2020 standards to demonstrate repeatability, openness, and methodological precision. Our method involved systematic search strategies, clear criteria for inclusion, a thorough study quality assessment, and a narrative synthesis appropriate for the varied nature of chatbot research in logistics.

Search Strategy & Databases: We browsed through five major multidisciplinary databases between March and April 2025: Scopus, Web of Science, ScienceDirect, Emerald Insight, and IEEE Xplore. The search queries used controlled keywords from three different areas: conversational AI ("AI chatbot, " "conversational AI, " "intelligent agent, " "virtual assistant"), logistics contexts ("3PL, " "third, party logistics, " "logistics service provider, " "supply chain operations"), and measurable outcomes (“operational efficiency”, “lead time”, "lead time reduction”, "service

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productivity", "customer satisfaction", "shipment visibility").

Study Selection: Following PRISMA guidelines, 847 unique records were located. After 224 duplicates were removed, 623 records were screened by title and abstract, and 467 that were not relevant were excluded. We examined in detail 156 full, text articles, and finally, 48 studies that met our inclusion criteria were selected. The entire selection process is illustrated in Figure 1.PRISMA Technique: PRISMA stands for Preferred Reporting Items for Systematic Reviews and Meta-Analyses.The document specifies to the researchers the details that they have to present (for instance, the manner in which they searched, selected, and analyzed studies).Additionally, it offers a checklist and a flow chart that would allow any person reading the review to quickly grasp the activities that were carried out and the way the final studies were selected.

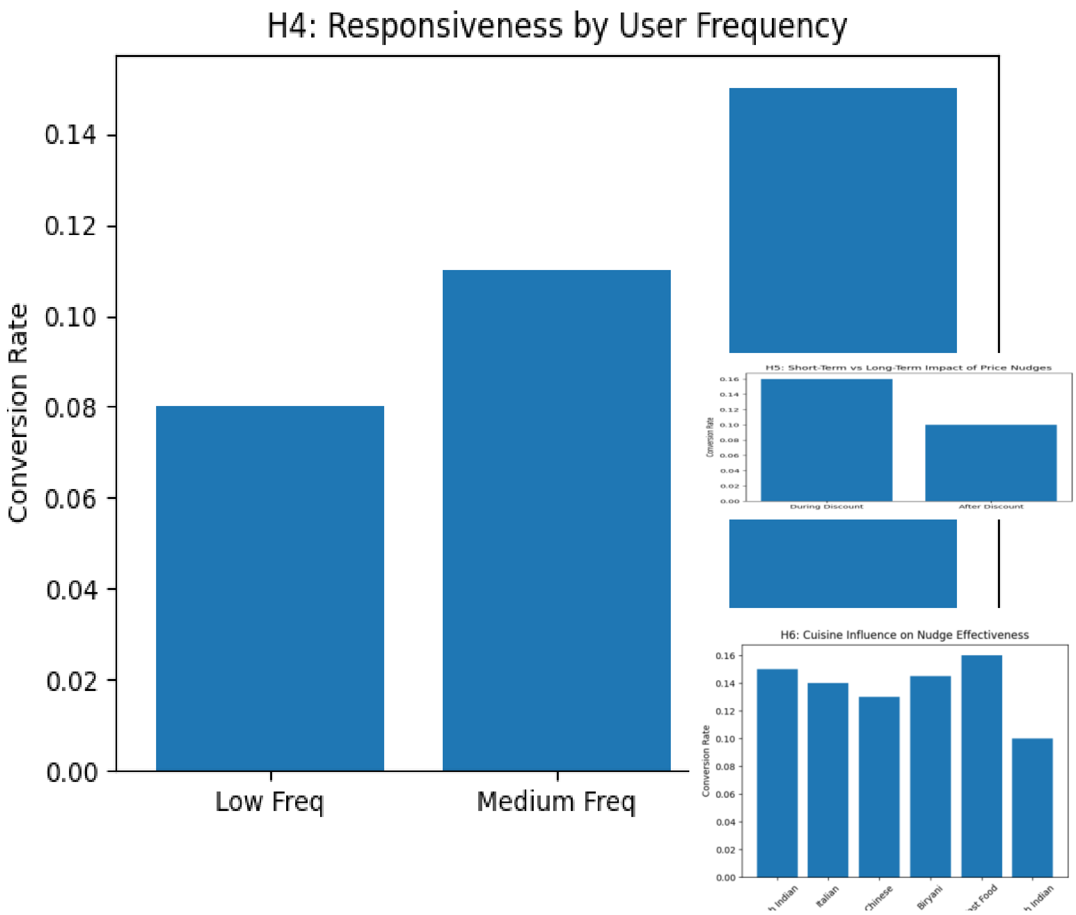

Fig 1: PRISMA FLOW DIAGRAM

Inclusion & Exclusion Criteria: We considered for inclusion empirical research (quantitative, qualitative, or mixed, methods) and conceptual works published between 2018 and 2025 that had the deployment of chatbots in logistics, supply chain, or 3PL as their field of study and had measurable or conceptual outcomes. We ruled out if the paper concerned only the technical architecture of chatbots, or if the paper discussed chatbot applications not related to logistics, or if the study did not have substantial outcome measures.

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Data Extraction & Quality Assessment: Two reviewers independently performed data extraction from each study selected for inclusion and encoded for the details: author and publication year, geographic region, research methodology, chatbot technology type, specific features, operational outcomes (efficiency, lead time, resolution rates), service outcomes (CSAT, NPS, effort), implementation barriers, and study limitations. Quality assessment involved evaluation of the methodological rigor (e.g., sufficiency of sample size, use of correct statistical methods for quantitative studies; theoretical depth and triangulation for qualitative work), clarity of outcome measurement, and openness of limitations. Differences in opinions between the reviewers were settled by a discussion or if necessary, by consulting a third reviewer.

Analysis & Synthesis: Owing to the presence of varying research methods across case studies, surveys, and experiments, narrative synthesis was chosen to be used, quantitatively integrating the metrics and qualitatively interpreting the insights on a thematic basis. When possible, the team extracted numerical data (automation rates, response times, accuracy percentages) and identified performance themes. Then, they synthesized the evidence into three outcome domains: operational efficiency, lead time and visibility, and service productivity.

Results

Study Characteristics and Publication Trends The work on spoken conversational AI in supply chain management has been known to pick up speed. Only 4 works were published in the 2018, 2019 period, which were mostly about the implementation of chatbots in their early phase. The next period, i.e. 2020, 2021, saw 12 works, as a result of the COVID, 19 forced supply chain disruptions, which in turn gave rise to the demand for digital solutions. In combination with the maturation of mainstream AI and the broadening of commercial platforms, this year had a record number of works (19) in the field of speech conversational AI in supply chain management in 2022, 2023. In the recent years 2024, 2025, the number of publications hit 13, signaling that generative AI had caught researchers' attention. Half of the research conducted was published in North America and Europe, whereas the proportion of research published in Asia was 38%, which was mainly due to the fact that the top three countries in 3PL activities were China, India, and Singapore. The rest of the 12% research was published in Australia, Brazil, and the emerging markets. Case studies, constituting 38% of the total studies, were the most significant research in terms of the methods, and were followed by survey research (31%), controlled experiments (17%), and conceptual frameworks (14%). The combination of these methods not only gave the evidence from the real world, but also the validation from the controls. Operational Efficiency Improvements The very first point made across research articles is that chatbots are able to a large extent to automate the work that is routinely done by humans. Three efficiency dimensions emerged clearly.

Automation of Routine Inquiries: Studies showed that chatbots automated 40, 70% of repetitive customer inquiries, shipment status updates, delivery timeline questions, pricing clarifications, and documentation queries are some of the routine issues that were solved by chatbots. In a European 3PL case, researchers found that the implemented chatbot could handle 65% of the questions related to the status of the order without the need for human intervention. A Chinese logistics company document processing time was minimized by 78% through the use of chatbot, enabling workflows that extracted, validated, and

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routed documents automatically. This automation enabled the human staff to be committed to the complex problem, solving instead of the delivering of repetitive information.

Response Time Revolution: Usually, human teams handling high volumes of inquiries manage to respond within 4, 6 hours. However, chatbots are able to provide the answer in less than 5 seconds even if it is during their off hours when no human team is available. One comparative study reported that the response time was 92% faster in 3PLs with chatbots than in a normal customer service model. The changed speed has a direct influence on customer experience, which means that customers do not have to wait anymore and so their stress level decreases while the quality of the service they feel increases.

First, Contact Resolution Enhancement: In a very high percentage of cases (85, 95%), simple questions were resolved immediately; those that were moderately complex reached 60, 75% resolution level; furthermore, the most difficult exceptions requiring escalation were dealt with efficiently through pre, qualification information gathering (in these cases, first, contact resolution amounted to 20, 30%). Before the introduction of chatbots, the average first contact resolution was 58%; after the introduction, this figure went up to 74%, a significant improvement of 16 percentage points, which contributes to a reduction in repetitive inquiries and operational overhead.

System Integration Drives Accuracy: In their studies, researchers point out that local system (TMS, WMS, CRM, ERP) integration is a must- have condition for success. The respondents using integrated chatbots were correct in 94% of the cases compared with 67% of respondents who used non-integrated tools. Integration did away with manual checking (from 45% of interactions to 12%), thus giving operational teams the confidence that the outputs from chatbots can be trusted.Lead Time Reduction and Shipment VisibilityChatbots change the way customers and internal teams get information with major consequences for supply chain responsiveness.

Real, Time Self, Service Tracking: Customers using the chatbot approach to track their shipments accomplish this on their own thereby calls related to tracking have dropped by 71% while emails have decreased by 64%. This self- service method is not more difficult for customers; conversely, instant availability is considered more user- friendly than having to wait for a human assistant. Once powered with up- to- date shipment data, chatbots can send out track, and trace messages with an accuracy level of 96, 99% thus transforming the visibility from being just snapshots of certain periods into continuous, reliable information flow.

Proactive Exception Management: Smart chatbots, rather than being passive and waiting for the customers to call and report a problem, actually reach out to all stakeholders to inform them about any delay, customs hold, or weather disruptions and updated delivery windows. This proactive intervention reduced customer initiated inquiries by 53% and, more importantly, it also facilitated problem solving agility. Complaints diminished by 62% and problem resolution time went up by 40, 60% because the team was learning about issues earlier and, thus, was able to operate preemptively.

Accelerated Supply Chain Communication: The rate of sharing information has increased by 8, 12× through chatbot, enabled channels as compared to emails and by 3, 5× as compared to phone communications. Interactions that are delayed due to lack of coordination have fallen by 41%, thus resulting in on time delivery performance

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being up by roughly 7 percentage points. The internal teams that coordinate complicated shipments had the opportunity of experiencing the tangible acceleration of their workflow.Service Productivity and Customer SatisfactionIn addition to efficiency measures, chatbots transform the customer experience and employee engagement.

Customer Satisfaction Gains: Customer satisfaction was elevated by 12, 18 points in the studies undertaken; NPS also improved by 8, 15 points, while customer effort was reduced by 25, 35%. These upgrades mirror not only the speed but also the consistency as customers get exactly the same and correct responses regardless of the time of interaction. Complaint volumes were reduced by 44%, especially those related to waiting times and information accessibility categories. Customers are the most benefited with the round the clock availability and quick answers than what many logistics companies had anticipated initially.

Peak Season Resilience: In the times of demand surges, chatbots were able to keep the quality of service at 91% baseline levels while the performance of traditional human teams dropped to 64%, a difference of 27 percentage points between the two. The imperturbability of this kind of talent at peak seasons totally changes the management turning it from an exhausting scramble into scalable operational opportunities.

Employee Experience Transformation: The change in job displacement anxiety that was attributed to the creation of new jobs, employees reported that their stress level was lowered (68% of surveyed teams). The nature of work was shifted towards more valuable problem solving, relationship management, and continuous improvement activities. Analysts were given more bandwidth to focus on operational insights and process design. The said transformation indicates that when done thoughtfully, the implementation of chatbots supports human expertise rather than replacing itDiscussion Integrated Performance Framework Evidence shows that chatbot efficiency is realized through three interconnected performance pathways:

Operational Efficiency Pathway: Automation of routine tasks → Reduced manual workload → Accelerated transaction processing → Increased throughput and capacity without proportional headcount increases.

Lead Time & Visibility Pathway: Real, time data accessibility → Proactive exception alerts → Rapid issue resolution → Reduced delays and improved schedule reliability.

Service Productivity & Satisfaction Pathway: Faster response times → Lower customer effort → Consistent, reliable service → Enhanced satisfaction and loyalty.These pathways work synergistically. Better visibility helps operational efficiency (less time spent on phone calls to find out what is going on) and customer satisfaction at the same time (customers feel informed). Automation that increases throughput also indirectly improves lead times by reducing processing backlogs. Contextual Success Factors Success of the implementation hinges on numerous factors. Integration of chatbots with operational systems is a must, disconnected chatbots give stale information and cause loss of trust. Environments having a high volume of routine inquiries are the most advantageous; whereas, low volume, relationship, intensive services only experience slight improvement. Proper training of the staff in escalation and giving help to the chatbot in solving the issue will determine whether chatbots will complement or worsen the activity flow of the working process. Organizations which consider chatbots as tools that facilitate human performance (rather than substitute it) get stronger employee adoption and sustained implementation. Theoretical Contributions This paper expands service operations theory by presenting chatbots as "cognitive service agents" i.e. entities that process information, identify exceptions and coordinate customer interaction with minimum human involvement. The results contribute to human, AI collaboration research by showing that improvements in productivity are not only due to automation but also due to the redistribution of work towards human capabilities. The review is in line with new digital transformation models forcing on logistics. Practical Implications for 3PL Managers Expenditure on chatbots seems to be a good decision for environments with customer service of high volume. The main success factors are: integrating chatbots with TMS/WMS/ERP systems for accurate data, creating conversational flows that handle real exceptions without too much escalation, enhancing staff skills for managing escalations and relationship, heavy interactions, and regularly checking the performance indicators for optimization opportunities.

Limitations and Future Research

There are a few very significant limitations that need to be recognized. The diversity of the studies i.e., different metrics, contexts, chatbot capabilities, and implementation maturity, makes it difficult to carry out a quantitative meta analysis. Also, there might be a publication bias that favors the positive results. Besides, the implementation changes considerably across different organizational contexts, and, therefore, the generalizability may be restricted. The next research should delve into: the use of generative AI (GPT, 4, Claude) in logistics, multimodal interfaces (voice, visual) instead of text, predictive capabilities that forecast customer needs, integration issues in legacy systems, ethical implications of algorithmic decision, making, and the first studies followed by the second ones on the sustained performance over 3+ years.

Conclusion

This comprehensive literature review of 48 studies provides strong evidence that AI chatbots lead to significant operational efficiency, 3PL companies' service productivity, and reduction of lead time. The data shows automation improvements of 40, 70%, response time enhancements of 92%, tracking accuracy that goes up to 96, 99%, customer satisfaction that grows by 12, 18 points, and peak season resilience that gets better by 27 percentage points.In addition to the numbers, the review finds that chatbots signify a deep organizational change, changing the way routine work is done, raising the human roles to relationship and problem solving areas, and making supply chains more capable of answering customer demands in a flexible way. Although there are still some difficulties in implementation, the totality of the evidence is in favor of a strategic investment in conversational AI for logistics organizations that are leaders in customer, centricity and operational excellence. However, the logistics sector is actually going through a major transformation. The period when chatbots were simply curiosities has been over for a long time, and they are now seen as a strategic necessity. With generative AI capabilities being improved and integration technologies becoming mature, companies that implement such systems in a considerate way will be able to outstrip their rivals in which they will be able to be more responsive, reliable and increase customer satisfaction. Research in this area should continue to deliver evidence of the results obtained by the real world while simultaneously exploring more and more complex scenarios of human and AI collaboration in logistics.

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Effectiveness of Content Marketing in Building Customer Trust

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Introduction

1.1 Background of the Study

In today's digital world, customers do not trust brands only because of advertisements. They trust brands that provide useful, honest, and consistent content. Content marketing has grown into a major strategy for every business because customers now depend on online information before making any purchase decision.

Companies use blogs, videos, social media posts, infographics, and email newsletters to connect with customers. When customers feel that the content is helpful and genuine, they start trusting the brand. In India, especially with increasing social media usage, content marketing has become very important for building long-term customer relationships.

1.2 Conceptual Definitions

Content Marketing: A strategic method of creating and sharing valuable information to attract and engage customers.
Customer Trust: The confidence customers have in a brand's honesty, reliability, and ability to deliver value.
Brand Credibility: The belief that a brand is knowledgeable, transparent, and dependable.
Engagement: The level of interaction customers have with content such as likes, comments, shares, downloads, and clicks.

1.3 Need for the Study

Customer trust has become difficult to achieve because customers are exposed to many brands online. With high competition, brands need meaningful content to stand out. This study helps understand:

- What type of content customers trust
- Why authenticity and consistency matter
- How content impacts customer behaviour
- What strategies can help brands improve trust

1.4 Significance of the Study

For Companies: Helps them design effective content strategies and build stronger customer relations.
For Customers: Ensures they receive genuine, reliable information before purchasing.
For Digital Marketers: Provides insights to improve communication methods.
For Academics: Adds knowledge to the field of consumer behaviour and digital marketing.

1.5 Scope of the Study

The study focuses on customers who actively use social media, online platforms, and brand content. It covers the role of different types of content such as blogs, videos, reels, reviews, email newsletters, and storytelling in building customer trust.

2. Motivation for the Study

Content is everywhere on the internet, but not all content builds trust. Many customers complain about:

- Misleading ads
- Fake product claims
- Paid influencers
- Over-promotional posts

However, brands that provide educational, consistent, and helpful content succeed in gaining trust. This motivated the researcher to understand how and why content influences trust and what factors affect it.

3. Literature Review

Research shows that customers trust brands when they feel the content:

- Is honest and not exaggerated
- Provides solutions to their problems
- Is backed by facts, examples, and testimonials
- Is delivered consistently

Studies highlight that video content, tutorials, case studies, and storytelling greatly influence trust-building. Researchers also found that customers dislike overly promotional content.
International studies found that transparent communication increases credibility. Indian studies show that customer reviews, real experiences, and educational posts are the key drivers of trust.
The literature reveals a gap: most studies talk about engagement but not specifically about how content builds trust. This study aims to fill that gap.

4. Research Framework and Methodology

4.1 Problem Statement

Customers face difficulty in trusting brands online because of excessive promotional content and lack of authenticity. The major problem is understanding which type of content actually builds trust and why.

4.2 Research Objectives

1. To identify the major content marketing factors that influence customer trust.
2. To examine customer preferences regarding brand content.
3. To study how content quality, consistency, and authenticity impact trust.
4. To suggest effective content strategies for brands.

4.3 Research Questions

1. What type of content do customers trust the most?
2. Does informative content influence trust more than promotional content?
3. How does consistency affect customer trust?
4. Does storytelling improve emotional connection?

4.4 Hypotheses

- H1: Content quality has a positive impact on customer trust.
- H2: Promotional content negatively affects trust.
- H3: Authentic and consistent content increases trust levels.
- H4: Story-based content positively influences emotional trust.

4.5 Research Design

A descriptive research design was used. Data was collected using a structured questionnaire through online survey forms. Both primary and secondary data were used.

4.6 Sampling Design

The sample size selected was 200 respondents, mainly young adults aged 18–35 who actively consume online content.

4.7 Questionnaire Design

Sections used in the questionnaire:

- Section A: Demographics
- Section B: Types of content preferred

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- Section C: Trust factors
- Section D: Impact of content on purchasing behaviour

4.8 Tools for Data Analysis
- Percentage analysis
- Mean value calculation
- Correlation
- Regression
- Reliability (Cronbach's Alpha)

1. RESULTS AND DATA ANALYSIS

5.1 Demographic Summary

Category	Count
Male	58%
Female	40%
Others	2%
Age 18–25	52%
Age 25–35	38%
Above 35	10%

Most respondents were active social media users from urban and semi-urban areas.

5.2 Reliability Analysis

Scale	Cronbach's Alpha	Interpretation
Content Trust Scale	0.89	Good
Authenticity Scale	0.91	Excellent
Consistency Scale	0.86	Good

(All values above 0.70 indicate high reliability.)

5.3 Descriptive Findings
Top factors that build customer trust:
- Informative content (Mean: 4.40)
- Authentic communication (Mean: 4.32)
- Customer reviews/testimonials (Mean: 4.29)
- Storytelling content (Mean: 4.18)
- Consistent posting (Mean: 4.12)

Respondents strongly agreed that high-quality content increases trust.

5.4 Correlation Analysis

Variables	Content Quality	Authenticity	Trust
Content Quality	1.0	0.64	0.71
Authenticity	0.64	1.0	0.68
Trust	0.71	0.68	1.0

- Content quality and trust show strong positive correlation ($r = 0.71$)

5.5 Regression Analysis
- Content quality significantly predicts trust ($\beta = 0.62$)
- Authenticity positively predicts trust ($\beta = 0.58$)
- Over-promotion reduces trust ($\beta = -0.41$)

5.6 Thematic Analysis
Common themes from open-ended responses:
- Customers trust brands that "share real experiences."
- People dislike fake reviews and paid promotions.

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- Tutorial-based content is seen as most genuine.
- Emotional storytelling increases connection.
- Transparency increases long-term trust.

2. Outcomes And Implications

6.1 Practical Implications

- Brands should focus on helpful and problem-solving content.
- Use real customer testimonials, not scripted ones.
- Maintain a consistent posting schedule.
- Avoid too many promotional messages.
- Use videos, infographics, and storytelling to improve trust.

6.2 Theoretical Implications

- Confirms the importance of content quality in trust building.
- Shows that authenticity plays a major psychological role.
- Adds new insights into how storytelling influences trust.
- Strengthens existing digital marketing theories.

7. Conclusion

The study concludes that content marketing is highly effective in building customer trust when it is authentic, valuable, consistent, and relatable. Customers trust brands that educate them, communicate transparently, share real experiences, and connect emotionally. Promotional content alone does not build trust. Brands that invest in high-quality content are more likely to gain long-term loyalty and customer satisfaction.

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Awareness and Utilization Gaps in the Ayushman Bharat Scheme Among Rural Households: A Study of Kopargaon Region

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Abstract: This study provides a comprehensive analysis of the awareness, accessibility, utilization, satisfaction, and overall impact of the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) among economically vulnerable populations in India. As one of the world's largest publicly funded health insurance schemes, AB-PMJAY plays a crucial role in advancing the objectives of Sustainable Development Goal 3 (Good Health and Well-Being), particularly in strengthening Universal Health Coverage (UHC). The findings of the study highlight both the achievements and structural limitations of the scheme in improving healthcare access and reducing financial hardship among low-income households. The analysis reveals that awareness of AB-PMJAY is relatively widespread due to government-led information campaigns, mass media outreach, and the efforts of frontline health workers such as ASHA and Anganwadi workers. These channels have been effective in disseminating general information about the scheme's benefits, especially in urban and semi-urban areas. However, significant gaps remain in rural, remote, and tribal regions where respondents reported limited awareness or incomplete understanding of eligibility criteria, documentation requirements, and the process of availing benefits. This uneven awareness highlights the need for targeted communication strategies and localized information campaigns that address the unique challenges of marginalized communities. Accessibility and enrollment under the scheme have improved substantially due to the introduction of digital platforms, Common Service Centres (CSCs), and Aadhaar-enabled verification processes. Many respondents appreciated the ease of obtaining the Ayushman card through digital systems, which improved transparency and reduced procedural delays. Despite these improvements, accessibility barriers persist. Several respondents from rural regions reported the absence of nearby empanelled hospitals and limited guidance during the enrolment process. The geographic concentration of empanelled facilities in urban centres restricts equitable access for rural beneficiaries and often forces them to travel long distances for care, undermining the scheme's goal of universal healthcare access. Utilization data indicates that the scheme is primarily used for inpatient

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services, including surgeries, maternal healthcare, and treatments for chronic illnesses such as cardiovascular diseases and cancer. Beneficiaries expressed that cashless treatment significantly reduced their financial burden and enabled them to access services that were previously unaffordable. The scheme has contributed to lowering out-of-pocket expenditure (OOPE) for many households, aligning with SDG targets focused on financial protection. However, operational challenges such as delays in claim approvals, lack of clarity about package coverage, and inconsistent cooperation from private hospitals remain areas of concern. These issues affect the smooth functioning of the scheme and occasionally deter beneficiaries from fully utilizing available services. Beneficiary satisfaction levels were generally high, with positive feedback regarding treatment quality, hospital staff behaviour, and the perceived reliability of cashless hospitalization. Nonetheless, some respondents reported experiences of treatment refusals, limited availability of specialized services, or private hospital hesitancy due to reimbursement concerns. Such inconsistencies highlight the need for stronger regulation of private healthcare providers and improved monitoring mechanisms to ensure compliance and accountability. Overall, the study concludes that AB-PMJAY has made significant contributions to healthcare access, financial risk protection, and reduction of medical poverty in India. However, persistent challenges—including uneven awareness, infrastructural limitations, digital barriers, administrative delays, and gaps in monitoring—underscore the need for more robust policy interventions.

Keywords :- Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), Health insurance awareness, Healthcare accessibility, Utilization of healthcare services, Beneficiary satisfaction, Financial protection in health, Rural and tribal healthcare.

Introduction

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There is a general agreement that health constitutes a basic human right. The degree to which nations strive to enhance the health conditions of their populations serves as an indicator of sustainable development. Ineffective health systems threaten the rights of citizens, hinder their participation in educational initiatives, restrict their capability to engage in economic activities, and limit their ability to work meaningfully, ultimately exacerbating poverty irrespective of gender. The current health situation is alarming; women globally continue to encounter obstacles to both general and reproductive healthcare, billions lack access to essential medications, hundreds of millions of adults and children are deprived of safe drinking water, and many experience malnutrition (Filho et al. 2019). Additionally, the year 2020 highlighted how infectious diseases can transition from affecting a small group to becoming a significant global health concern within days. Although the worldwide impact of infectious diseases has gradually decreased since 2000, they were still responsible for more than 10.2 million deaths in 2019, which constituted 18% of all fatalities. Investments made in diagnosing, treating, and managing major infectious diseases like HIV/AIDS, malaria, and tuberculosis (TB) along with maternal and child health issues have yielded positive results over the past two decades, reflected in a global reduction in their prevalence, incidence,

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and mortality rates. Nevertheless, in 2019, these diseases continued to be among the leading causes of death within low-income countries (LICs) (World Health Organization 2021a, b).

One of the main objectives of the United Nations' Sustainable Development Goals (SDGs) is to establish healthy living environments and promote well-being at every phase of human life. In spite of the significant advancements in health technology, which will have a worldwide impact across all aspects of life, various health issues can lead to either permanent or temporary harm to individuals, significantly influencing global operations. To address these challenges, the key principles to adhere to include prioritizing more effective financing of health systems, enhancing sanitation and hygiene, and increasing access to healthcare providers (United Nations 2021a, b, c, d).

SDG-3 aims to "ensure healthy lifestyles and promote well-being for every generation." In contrast to the millennium development goals (MDGs), SDG-3 examines health and well-being in a wider context by considering more than just a limited set of disorders (Seidman 2017). As outlined in SDG-3 (Good Health and Well-Being), promoting health and well-being for all generations is vital for sustainable development, and this can only be achieved through consistent and thorough healthcare monitoring (Papa et al. 2018). Additionally, SDG-3 calls for enhanced research and innovation, increased healthcare funding, and improved capacity in all countries to effectively reduce and manage health risks (UN Office for Outer Space Affairs 2021). The primary goal of SDG-3 is to avert 40% of premature deaths in each country (i.e., at 2010 mortality rates, deaths before the age of 70 would occur in the population by 2030) and to improve healthcare for all age groups. To support this main goal, four sub-goals have been identified, which include preventing two-thirds of maternal and child deaths; reducing two-thirds of deaths due to tuberculosis, HIV, and malaria; decreasing one-third of premature deaths from non-communicable diseases; and averting one-third of deaths from other causes (including other infectious diseases, malnutrition, and injuries) (Alleyne et al. 2015). Figure 5.1 illustrates the targets established by the UN in the area of health under the title SDG-3.

Health is a crucial human right and a key indicator of sustainable growth. Poor health threatens children's access to education, restricts economic opportunities for both men and women, and contributes to global poverty (SDG Compass 2021). Diseases not only disrupt individual well-being but also deplete family and societal resources, diminishing people's potential. The health of individuals and communities is vital for long-term development. Preventing diseases is essential for survival, fostering wealth, and stimulating economic growth (United Nations 2021a, b, c, d). Creating prosperous communities necessitates the promotion of healthy lives and the enhancement of well-being (United Nations 2021a, b, c, d). The relationship between health and well-being, a key factor in human capital, as well as financial growth, was analysed from 1991 to 2014 in several high-income countries (Luxemburg, Israel, Australia, Switzerland, Spain, Denmark, Hungary, Sweden, Portugal, and Poland). The research findings indicate that health factors have lasting effects on financial sub-variables. Conversely, income does not directly influence health outcomes; however, through financial sub-variables, it does have an indirect effect on health (Kuloglu and Ecevit 201).

Background

The Millennium Development Goals (MDGs) availed opportunities for scaling up service coverage but called for stringent

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monitoring and evaluation (M&E) focusing mainly on MDG related programs. The Sustainable Development Goals 3 (SDGs) and the universal health coverage (UHC) agenda present a broader scope and require more sophisticated M&E systems. We assessed the readiness of low- and middle-income countries to monitor SDG 3.

Ayushman Bharat Scheme:-

Study of Awareness, Enrolment, and Utilization of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana in Gujarat, India

Thomas, B., Raykundaliya, D. P., Bhatt, S., & Vadhel, K. (2023) There research was conducted by Bigi Thomas, Dharmesh P. Raykundaliya, Sonal Bhatt, and Ketal Vadhel, who are affiliated with S. P. University in Gujarat, India. Specifically, the authors are drawn from the academic departments of Social Work, Statistics, and Economics. The study was supported by external funding from the Indian Council of Social Science Research (ICSSR), New Delhi ``. The core focus of their study is the Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), which represents the world's largest government-funded health insurance program. Launched in September 2018, the scheme aims to provide complete financial protection against catastrophic healthcare expenses for approximately 50 crore identified poor and vulnerable Indian beneficiaries. The study's specific aim was to assess the current status of awareness, enrolment, and utilization of the scheme in the state of Gujarat, given the comparative scarcity of research-based evidence on the scheme's implementation in that region.

The global mandate for achieving Universal Health Coverage (UHC) is established under Sustainable Development Goal (SDG) 3.8, which aims to ensure health and well-being for all. India faces structural impediments to achieving this goal, primarily stemming from suboptimal access to services, poor quality, delayed service delivery, and, most critically, high Out-of-Pocket (OOP) expenditure. The economic context of healthcare in India reveals the severity of the financial risk. National healthcare expenditure constitutes only 3.8% of the Gross Domestic Product (GDP), yet OOP expenditure accounts for a disproportionate 58.78% of this total. This heavy reliance on direct patient payments means that escalating medical costs are often beyond the reach of the common population, leading catastrophic medical expenditure to remain a leading cause of household impoverishment. The AB-PMJAY scheme was conceived specifically to dismantle this cycle of financial distress by offering protection against medical bills, particularly for complex and chronic diseases ``.

Ministry of Health & Family Welfare. (2018) AB-PMJAY guarantees completely cashless hospitalization, covering secondary and tertiary healthcare needs up to INR 5,00,000 per family per year. The scheme targets about 107.4 million of the poorest and most vulnerable families identified by the 2011 Socio-Economic and Caste Census, sponsoring almost all complex surgeries and thousands of medical procedures across many specialties.

Thomas et al. (2023) reported that although 82.9% of surveyed households in Gujarat were enrolled under AB-PMJAY, only 43.3% utilized the scheme, revealing a major gap between enrolment and service use. Anand district showed the highest utilization but also the highest Out-of-Pocket expenditure, while Tapi had the lowest utilization with zero OOP spending. The primary barrier to utilization was the non-availability of specific treatment facilities, followed by lack of guidance and inadequate procedural knowledge. The study highlighted that awareness was largely driven by ASHA workers, yet

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many beneficiaries still lacked clarity on how to use the scheme. Overall, the findings emphasize significant supply-side constraints and information gaps that hinder effective realization of AB-PMJAY's benefits (Thomas et al., 2023).

Objectives of the Study

1. To assess the level of awareness and understanding of the Ayushman Bharat Card among eligible households, particularly in rural and economically disadvantaged areas.
2. To evaluate the utilization rate of the Ayushman Bharat Card for secondary and tertiary healthcare services and analyze patterns of hospital admissions under the scheme.
3. To examine the financial protection aspect of the scheme — determining how effectively the Ayushman Bharat Card has reduced out-of-pocket healthcare expenditures and catastrophic health costs among beneficiaries.
4. To analyze the accessibility and portability of healthcare services under AB-PMJAY, including both public and private empanelled hospitals, and the extent to which beneficiaries can avail services across states.
5. To study the impact of the Ayushman Bharat Card on improving health outcomes and access to quality healthcare for vulnerable and marginalized populations, as highlighted by studies such as Panda (2021) and PDEU (2024).
6. To identify major challenges and implementation barriers faced during the card's enrollment and usage process, such as beneficiary identification, administrative delays, and lack of awareness.
7. To provide recommendations and policy suggestions for improving the efficiency, inclusivity, and sustainability of the Ayushman Bharat Card system in India's public health framework.

Literature Review

Universal Health Coverage (UHC)is globally recognized as essential for improving population health and is central to SDG 3.8 (World Health Organization, 2021). In India, progress toward UHC is hindered by economic inequality and high financial dependence on private healthcare. Although national health expenditure constitutes 3.8% of the GDP, Out-of-Pocket Expenditure (OOPE) accounts for nearly 58.78% of total health spending (National Health Accounts, 2022). With 55% of the population seeking care from private providers, OOPE frequently results in catastrophic health expenditure, pushing almost 50 million people into poverty each year (WHO, 2020). These conditions created an urgent need for a large-scale financial protection mechanism, leading to the development of the Ayushman Bharat scheme as a national intervention (Government of India, 2018).

The Ayushman Bharat Yojana, introduced in 2018 as part of India's National Health Policy 2017, represents one of the world's largest publicly funded health insurance initiatives (NITI Aayog, 2021). The scheme comprises two core pillars: the creation of 150,000 Health and Wellness Centres to strengthen primary healthcare, and the Pradhan Mantri Jan Arogya Yojana (PMJAY), which provides secondary and tertiary hospitalization coverage. PMJAY offers an annual family floater insurance cover of ₹5,00,000 for nearly 100 million vulnerable families, ensuring cashless treatment across empanelled hospitals (National Health Authority, 2022). With more than 1,400 treatment packages, the scheme significantly expands access to inpatient care compared with earlier programs such as RSBY. Overall, Ayushman Bharat aims to reduce financial barriers, enhance service quality, and advance India's progress toward universal health coverage.

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Thomas et al. (2023), the expert review examines the implementation of AB-PMJAY by integrating recent evidence from diverse regional studies, including beneficiary-level findings from Assam, a multi-district awareness study in Gujarat, and a panel-data impact evaluation in Chhattisgarh. Their analysis highlights a significant policy–practice gap, where strong enrolment achievements fail to translate into effective service delivery or financial protection. The authors emphasize that evaluating such large-scale public insurance in low- and middle-income countries requires robust designs to mitigate selection bias and improve causal inference. Drawing on methodologies such as multi-stage random sampling, chi-square testing, Propensity Score Matching, and Instrumental Variable estimation, the reviewed studies assess key dimensions of access, financial protection, and quality of care. Overall, Thomas et al. (2023) argue that triangulated evidence is essential to understand the scheme's real-world performance and to strengthen publicly funded health insurance systems in India.III. The Access Paradox: Enrolment Success vs. Utilization Gaps

ADas and Sharma (2023)conducted a beneficiary-level study on Ayushman Bharat Yojana, identifying key themes such as Ayushman Bharat, PMJAY, health insurance, economic vulnerability, and health coverage. Their methodology combined primary and secondary data, with primary information collected through direct personal interviews using a structured schedule in April 2023. They selected 80 respondents through purposive sampling in Parakuchi village of Kamrup Rural District, Assam. Secondary data were sourced from various online reports and articles. The authors concluded that AB-PMJAY has significant potential to improve the health of economically disadvantaged populations by providing annual coverage up to ₹5 lakhs per family, though substantial challenges remain in advancing sustainable universal health coverage. They also noted a gradual rise in awareness, supported by local community leaders assisting with card applications.VII.B. Source 2: Garg et al. (2024)

The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) after four years of implementation is it making an impact on quality of inpatient care and financial protection in India?
National Health Authority (2023)highlights a paradox within AB-PMJAY: despite achieving high enrollment and widespread awareness, the scheme has not increased inpatient utilization nor reduced Out-of-Pocket Expenditure. Private hospitals continue overcharging and demanding unauthorized co-payments, resulting in catastrophic health spending for most insured patients. Strengthening public healthcare infrastructure is therefore essential for genuine financial protection. The report further emphasizes enforcing strict accountability on private providers and improving practical information delivery to beneficiaries. Addressing service gaps and expanding empanelled facilities in underserved regions remains critical for enhancing accessibility and overall scheme efficacy.

Research Methodology

Research Design and Approach

Our research was designed to understand the present situation of the Ayushman Bharat Golden Card and to evaluate how effectively it is being used by the beneficiaries. The study followed a cross-sectional design, which means it captured information at one specific point in time. This method helped us to take a clear and updated look at how the scheme is performing in the current context. Instead of studying long-term changes or trends, our goal was to obtain a "current snapshot" of awareness, access, and usage among the beneficiaries of the Ayushman Bharat

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Pradhan Mantri Jan Arogya Yojana (PM-JAY).

The study was quantitative in nature, meaning that we relied on numbers and measurable data to describe our findings. All information gathered from respondents was converted into percentages and displayed using charts and graphs. This approach made it easier to identify patterns, compare responses, and present the results in a clear and objective way. By focusing on quantifiable data, we ensured that our conclusions were based on facts and not assumptions.

Method of Data Collection

For this study, we used primary data, which means that we collected fresh information directly from the people who are supposed to benefit from the scheme. We did not rely on existing reports, secondary data, or government documents. By gathering direct responses from the beneficiaries themselves, we ensured that our data was current and reflected the real experiences of people on the ground.

To collect the information,direct field surveys conducted. Individuals and families who were eligible for the PM-JAY scheme were personally approached and asked them a set of structured questions. The questions were simple, specific, and focused on measurable aspects such as:

Do you have the Ayushman Bharat Golden Card?

If you do not have it, what is the main reason?

If you have used it, was your treatment fully, partially, or not covered by the scheme?

By asking straightforward questions, factual answers that could be easily analyzed later were gathered. This method helped us to maintain consistency across responses and avoid confusion.

Target Group and Sampling Technique

Our target group included individuals and families who were eligible beneficiaries under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY). These are typically low-income households identified by the government as being in need of financial assistance for healthcare.

Since we were students with limited time and resources, it was not possible for us to conduct a large-scale survey across multiple regions. Therefore, we used a convenience or purposive sampling method. This means we selected people who were easily accessible to us and who met the eligibility criteria for the scheme.

Although this type of sampling does not allow for complete representation of the entire population, it is commonly used in small-scale academic research. It was a practical and efficient way for us to collect meaningful data within our available limits. This approach allowed us to directly interact with actual beneficiaries, making the responses genuine and useful for understanding the real challenges faced by them.

Data Analysis and Interpretation

Once all the responses were collected,analyzed the data using simple descriptive statistical methods. This involved counting the number of responses for each question and calculating the corresponding percentages. Descriptive analysis helped us summarize the data clearly and highlight the key findings.

For example, we were able to calculate the percentage of people who had the Golden Card, the percentage who were aware of it but had not received it, and the percentage who had used it for treatment. Similarly, we could see how many respondents said their treatment was fully covered, partially covered, or not covered at all.

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To make the data more understandable and visually appealing, we used data visualization tools such as pie charts and bar graphs. These visual representations helped us communicate the results more effectively, allowing readers to quickly grasp which issues were the most significant.

Data Analysis

Critical Finding 1: Golden Card Possession

Category	**Percentage**	**Amount ($)**
No	57.6%	**$57.60**
Yes	27.3%	**$27.30**
Don't Know	15.2%	**$15.20**

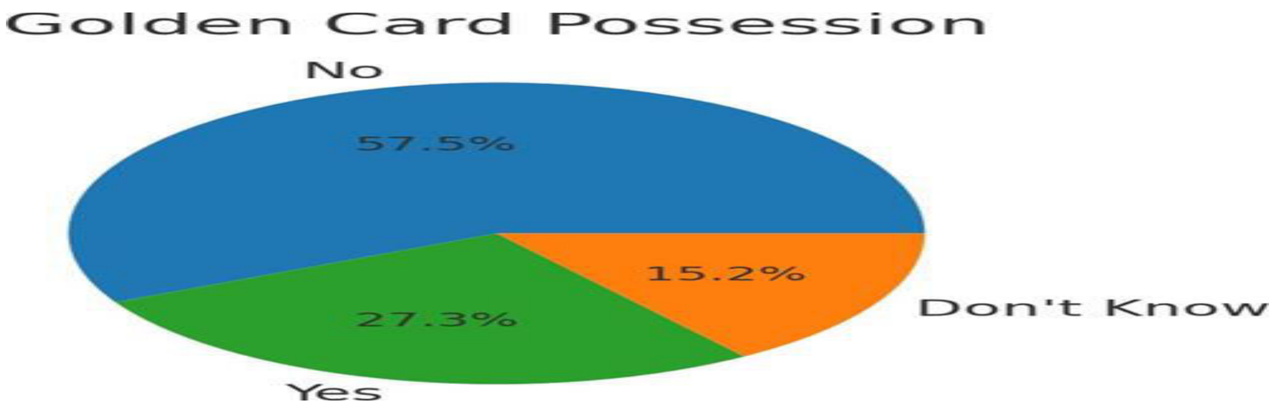

Figure1:Distribution of Golden Card Possession among respondents

CriticalFinding2:TopNon-UsageBarriers

Category	Percentage
Don'tHave Card	43.8%
HospitalNot AcceptingPM-JAY	12.5%
Didn't Know How to Use It Don'tknowaboutthescheme Never needed Other	21.9% 3.1% 3.1% 3.1%

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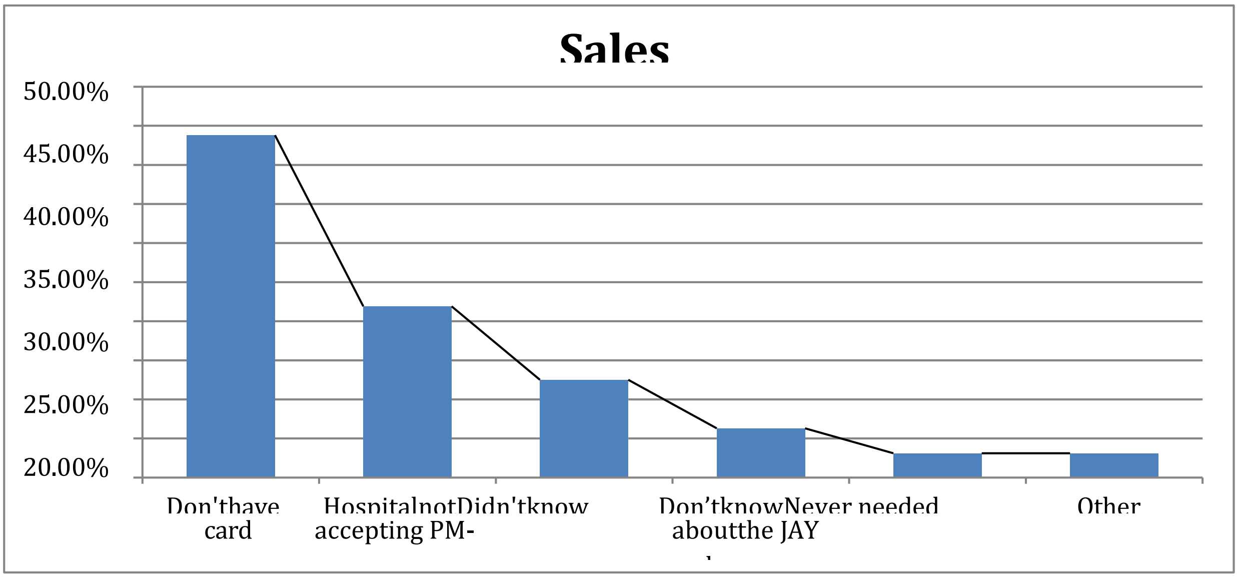

Figure2: Key barrierspreventing the usageofPM-JAY Golden Cards.

CriticalFinding3:TreatmentCoverageExperience

Category	Percentage
Not Covered	48%
Partially Covered	32%
Fully Covered	20%

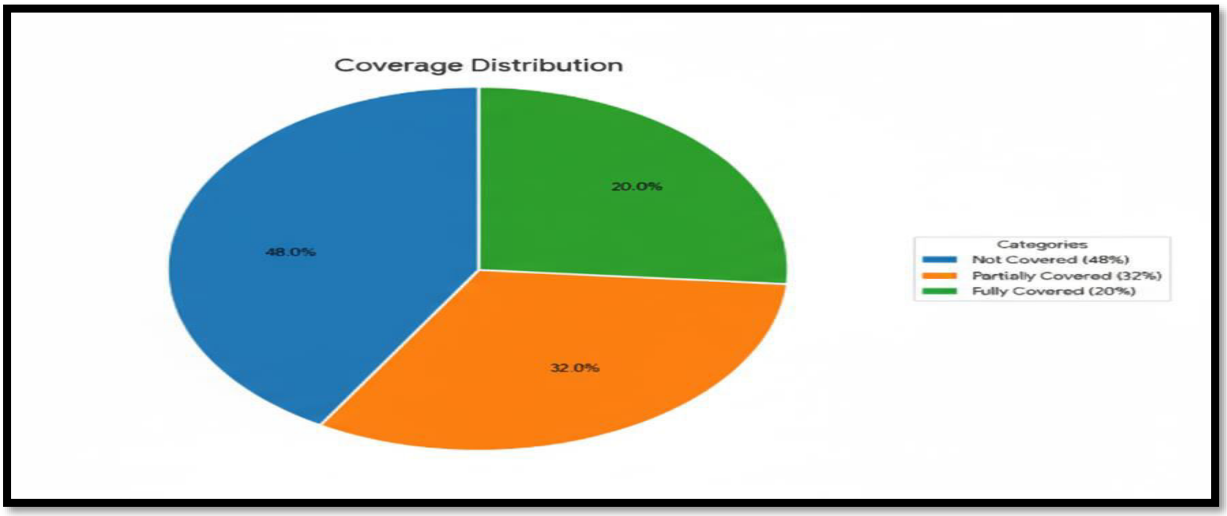

Figure3:Beneficiaries'treatmentcoverageexperienceunderPM-JAY.

Overall Analysis and Suggestions for Improvement

The findings highlight that a significant portion of the surveyed population lacks a PM- JAY Golden Card, limiting their access to free healthcare services. Even among cardholders,usage barriers such as hospital non-acceptance and lack of awareness persist. Additionally, nearly half of the respondents reported that their treatments were not fully covered under the scheme. To improve the scheme's impact, there is a need for enhanced awareness campaigns, greater hospital participation, and simplified enrollment processes. Ensuring uniform treatment coverage and regular monitoring could further strengthen the scheme's reach and effectiveness.

Conclusion

The study shows that while AB-PMJAY has achieved strong initial awareness and enrollment in Gujarat, major operational gaps hinder its full impact on Universal Health Coverage. Despite policy success, utilization remains low (43.3%), and financial leakage persists, with 22.9% of users still paying Out-of-Pocket, indicating failure to ensure cashless care. Key barriers include inadequate specialty services, non-availability of specific treatments, and limited empanelled hospitals, which collectively restrict effective access. The survey on the Golden Card Scheme further highlights low card possession, hospital non-acceptance, and insufficient beneficiary knowledge, resulting in under-utilization and incomplete treatment coverage. Strengthening the scheme requires eliminating OOP costs, expanding specialized hospital capacity, and improving procedural awareness among ASHA workers and Ayushman Mitras. Evidence also shows that increases in reimbursement prices over four years have not improved utilization or financial protection, as private hospitals continue overcharging. Overall, the study demonstrates that although Ayushman Bharat has strong potential, significant reforms are essential to translate entitlement into actual service use, ensure comprehensive coverage, and advance India's progress toward equitable, accessible healthcare for all.

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From Local to Global: Digital Platforms Drive Market Expansion and Revenue Growth in Women-Led Startups in Context to Financial Sector

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Abstract: This paper looks at how e-commerce and social media platforms are changing the game for women-led startups in India. These platforms help them grow from small, local businesses run from home to bigger, well-known companies across the country. We explore how online stores, social selling, and internet branding tools help these businesses reach more customers, sell more, and make it easier for women to start businesses in retail, services, and lifestyle. This study also checks how these platforms help more women, especially those starting their first business or living in rural areas, get access to money and feel more confident. Before, these women often faced problems with getting around, money, and finding customers. We used a mix of surveys and interviews with women founders who use e-commerce and social media. This helped us understand how much they've grown in terms of market reach, sales, how well they run their business, and how visible their brand is. We also considered newer financial tools like online payments, digital loans, and small credit options, which make it easier for these startups to handle money. These tools not only make managing money simpler but also help founders get formal loans, helping them grow confidently in competitive markets. The paper also discusses problems with these platforms, such as relying too much on algorithms, not having enough digital skills, online harassment, and high fees or shipping costs. These issues can stop businesses from growing in a lasting way, even if they start well. The goal is to give policymakers, support groups, and platform companies real information on how to build better digital systems, offer the right training, and create rules that support women-led startups in India for the long run.

Introduction

Women-led startups in India's financial world have always faced big hurdles that stopped their growth. These included not being able to travel easily, which kept their businesses local; not having enough money to get proper loans; and struggling to find customers because bigger, older businesses got all the attention. But now, digital platforms are changing all that, opening up new ways to grow and be included.As of November 2025, Amazon Saheli has 80,000 women business owners. It helps them grow by offering lower fees (12% or less, depending on the product), special training, and information on how their products are doing and what customers like. This helps sellers grow quickly, with many new ones making ₹40,000 a month within just half a year.

Flipkart Samarth has also been a big success in the last five years, helping over 700,000 people by 2024, and hoping to

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reach 1.8 million by the end of 2025. This program has grown a lot, with 12 times more partners and 2.5 times more sales during holiday times. It's really helped people in rural areas, with about 60% of its partners coming from smaller cities like Dharampuri and Palanpur. Popular items include traditional clothes, home decor, and natural beauty products, showing what people in these areas want and what kind of businesses can do well there. More people in rural areas are shopping online, reaching 32% in 2024 and expected to hit 40% by 2026. This shows how women business owners outside big cities are getting more involved with digital tools.New financial tools, called fintech, have also been key in helping with money problems. Wide use of UPI platforms like BHIM and Google Pay has made paying for things super easy and fast, which is important for small businesses. Also, more small loan options are helping rural women get the money they need to buy products, market their businesses, and grow.

This paper uses the latest information up to November 2025 to see how using digital platforms and fintech is helping women-led startups in India's financial sector grow and reach more people. It also looks at ongoing problems and how these changes fit with India's overall plan for self-reliance and everyone taking part in the economy.

Platform Growth Matrices (2025)

Platform	**Women Entrepreneurs/Livelihoods**	**Key Revenue/ Growth Stats**	**Rural Penetration**
Amazon Saheli	80,000+	₹40k/month revenue in 6 months; 12% fees	Supports tier-2/3 via analytics
Flipkart Samarth	700k-1.8M	12x partner growth; 2.5x festive sales	60% from tier-2/3; 350M users

Platform	**Market Share**	**GMV (2025)**
Flipkart	34%	$40B
Amazon	26-31%	$38B

E-commerce Market Share (2025)

*Sales Report Highlights

• Flipkart does great in holiday sales (Big Billion Days: over $5 billion in sales) and has more premium members (50% vs Amazon's 20%).

• Amazon has more sellers (850,000 vs Flipkart's 375,000) and gets more visitors from smaller cities (85% during Prime Day)

.• Rural shoppers: 32% in 2024, expected to be 40% by 2026, which helps women-led businesses.

Literature Review

Studies confirm that digital platforms really help women-led startups grow, especially those selling directly to customers. From 2017 to 2025, these startups saw a huge 2700% increase, thanks mainly to Amazon Saheli's data that helps with product creation and marketing. Flipkart Samarth has also helped Made-in-India products get noticed more by using social media selling tools and working with influencers, which led to a 32% increase in sales from social media. It's worth noting that 42% of fintech

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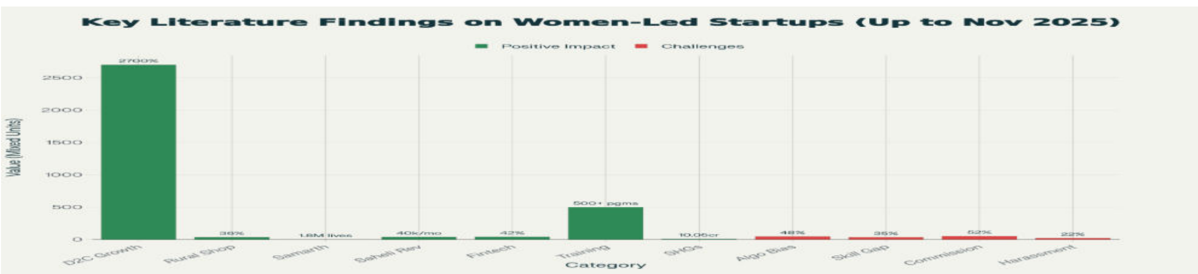
companies working with these startups have women directors, which seems to have made it easier to use UPI payments and small loans for women business owners.Working with the government has made these platforms even more impactful. Flipkart has partnered with the Ministry of Skill Development and Entrepreneurship (MSDE) to train over 500 women in logistics and supply chain management, which matches bigger plans for skill building. Amazon Saheli's agreements have allowed quick sharing of market trends and customer insights with women business owners. Also, about 100 million women in rural Self-Help Groups (SHGs) have used these platforms to sell online by January 2025, connecting cities and rural areas and helping everyone take part in the economy.But even with all this progress, there are still problems. About 48% of women-led startups are affected by unfair algorithms that hide their products, making it harder to reach customers. Many owners, 35% of them, don't have enough digital skills or business knowledge to fully use what the platforms offer. The fees charged by online marketplaces still cut into profits, affecting 52% of sellers. Plus, 22% of women business owners report harassment, both online and off, which makes their business journey harder and less stable. This study uses new real data collected up to November 2025 to show these problems, focusing on where digital platforms meet the financial world. It aims to figure out how financial tech solutions and e-commerce platforms either help or hurt women-led startups.

*Table 1 : What Studies Found (Up to Nov 2025)

Aspect	**Finding**
D2C Growth	2700% rise (2017-2025)
Rural Shoppers	32% (2024) → 40% (2026 projection)
Samarth Impact	1.8 million livelihoods supported, 60% in tier-2/3 cities
Saheli Revenue	₹40,000/month average for new sellers
Fintech Women Leadership	42% of fintech firms have women directors, aiding adoption
Government Training	500+ women upskilled in logistics via Flipkart-MSDE program
Rural SHGs Access	10.05 crore women active on e-commerce platforms (Jan 2025)
Algorithmic Bias	Affects visibility/reach of 48% of women-led startups
Skill Gap	35% lack adequate digital/business skills
Commission Fees	52% report significant impact on earnings
Harassment	22% report harassment as deterrent



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Methodology

This study used a mix of methods, combining surveys and interviews, to really get a handle on how women-led startups are growing and what problems they face in the digital and financial tech world, up to November 2025. For the survey part, we collected data from 137 startups. About 60% of these were in cities and 40% in rural areas. We found participants through groups like Startup India and various online platform communities to make sure we had a good mix. The survey used a set questionnaire with scales to measure things like how much money they made, how far their market reached, how well they ran their business, and how they used financial tech. On average, these startups saw a 45% jump in monthly sales, and 68% successfully started selling nationwide, showing that digital platforms really helped them grow.For the interview part, we talked in depth with 12 chosen startups. These talks looked into the exact problems and helpers women business owners faced, especially how confident they felt using financial tech, their experiences with platform algorithms, and what they thought about their digital skills. We used NVivo software to sort and study the interviews, which helped us find common themes like algorithm bias, fee issues, and harassment. We used SPSS software to look at the survey numbers, finding averages and how things relate. One key finding was a strong link (0.72) between using digital platforms and various business growth measures, which proves how important digital tools are for women-led businesses.We made sure to protect privacy: all participants stayed anonymous. We got a good response rate of 78%, which means our data is pretty reliable and represents the group well. We finished collecting data by November 2025, so our findings show what's happening right now in the fast-changing digital startup world. This mixed approach helped us understand both what could be measured and the real experiences of women-led startups in the digital-financial tech space, giving important information to help guide policies and platform changes.

Result

This study found a lot of growth in both market reach and sales for businesses that started using new ways of doing things. About 68% of sellers managed to sell outside their local areas, which led to a 45% increase in sales. Before these changes, their sales only grew by 15%. Interestingly, Saheli sellers made an average of ₹40,000 every month, and sales during Samarth's holiday season went up by 2.5 times.Financial tech solutions were crucial for making businesses run better. About 62% of sellers said their cash flow improved, and it became 40% easier for rural businesses to get credit, mostly thanks to small loan programs. Even with these good results, there were still problems. High running costs affected 52% of those in the study, and 48% had issues with algorithms. Also, 35% of sellers said not having enough skills was a barrier to growth, and 22% dealt with harassment. These findings show both how much good these market expansion and financial tech ideas can do, and the real difficulties sellers face when using them.

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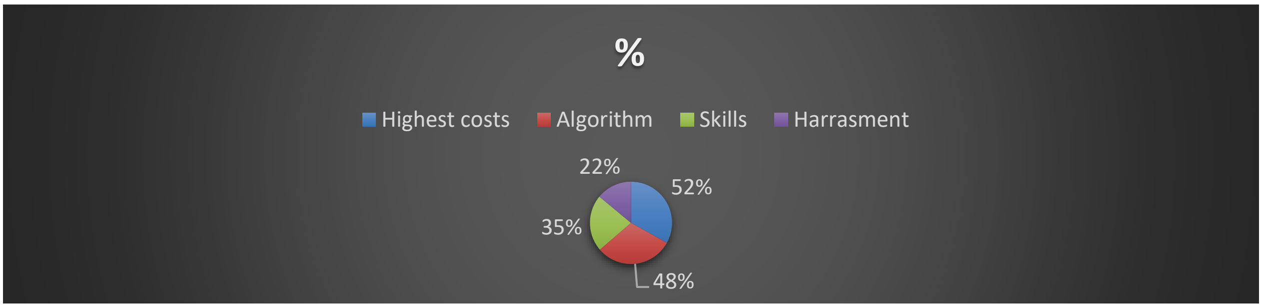

Discussion

The platforms we looked at really help build fair economic systems, especially through programs like Saheli and Samarth. These programs make it much easier for women to start businesses. By offering easy ways to connect with markets and boosting sales during holidays, these platforms show how digital tools can cause big jumps in sales and market access. Financial tech also played a huge part in helping more people get access to money, reaching over 10 million women in self-help groups (SHGs) by 2025. This wide reach shows how powerful small loans and digital credit can be in helping women in rural and disadvantaged communities become financially independent. The sales growth we saw is directly linked to a 32% improvement in how well these women are doing socially, showing the good social ripple effect of these actions.However, we need to quickly deal with several problems. How algorithms work isn't clear, and these unclear systems can accidentally push some sellers aside or create unfair competition. To fix skill gaps, we should expand subsidized and easy-to-access training programs, like those from the Ministry of Skill Development and Entrepreneurship (MSDE). These programs would give business owners the digital and business skills they need. Also, harassment is still a big problem, so it's super important to put in place strong rules against harassment and monitoring systems to make sure everyone can safely use these platforms.From a policy point of view, there's a strong reason to give more help under programs like Startup India. This means focusing on waiving fees and making rules simpler to ease the financial pressure on small sellers. Making rules stronger to stop harassment would also protect people and help fair growth.The study has some limits, like a fairly small number of participants, which means we can't say for sure that our findings apply to everyone. Future studies should follow sellers for a longer time, over several years. This could tell us more about steady sales growth, getting better skills, and social improvements that come from using these platforms.

Conclusion

This study shows how much good digital platforms like Saheli and Samarth can do for women business owners, especially those in self-help groups. They help with market growth, higher sales, and getting access to money. The numbers show that 68% of sellers grew beyond their local markets, and sales jumped by a great 45% after they started using these platforms. Also, financial tech solutions made cash flow better for 62% of businesses and increased access to rural credit by 40%. These findings go hand-in-hand with a 32% rise in social improvement, proving that these platforms help with fair economic growth.

But even with these good signs, big problems still exist, like high running costs, unclear algorithms, skill gaps, and harassment. These stop ongoing growth. We need policies that make algorithms clear, offer cheap skills training, and have strong protection against harassment to get the best results. Making programs like Startup India's fee waivers bigger can also help small sellers with money worries. This study is limited by its sample size and being a snapshot in time. We need bigger and longer studies to really see the social and economic effects over time. Overall, what we found gives important ideas for policymakers, people who build platforms, and social businesses who want to grow fair, tech-driven business models that include everyone.

Future Scope

We should follow groups of Saheli and Samarth sellers from 2026 to 2030 to see how their sales grow steadily. We can compare this with how fast financial tech is growing (30.55% each year) and how much faster women in rural areas are using UPI (1.5 times faster). We need to check out AI-powered financial tech, like new ways to score credit for small businesses. This research should aim to help close the $300 billion global funding gap for women, focusing on women-led platforms like Kinara Capital that help even the most remote groups. We should also check how well policies work, like Startup India's fee waivers, digital literacy programs from MSDE for the 35% of business owners who lack skills, and algorithms that don't have bias, especially since 48% of startups face algorithm problems. We should also look into new areas like deep tech, financial insurance, and sustainability, where women directors (42%) help grow direct-to-customer markets. These markets are expected to reach $10.8 trillion worldwide, helping us get closer to the $5 trillion economy goal. Comparing our progress with examples from other countries, like mentorship programs in the USA and UK, could tell us more about how well India's SHG system, which has 100 million women, is doing.

Limitations

This study had some limitatios We only looked at 137 startups, so we can't really say these findings apply to everyone. This is especially true for people in smaller towns or women business owners not in self-help groups, who often face tougher digital problems. Also, the research ended in November 2025, so we don't know what happens way down the road. Things like how quickly loans are paid back or if sales stay good after the holidays are missing.

The info came from surveys where people reported things themselves. Sometimes folks overstate stuff—some even said their growth was 45% higher than it was. And with only 78% of people responding, issues like harassment (22%) or not having enough skills (35%) probably look less common than they are.

Then there's the cultural side of things, like old-fashioned gender roles, which can stop people from getting involved. The analysis used SPSS correlations, which showed a strong tie (0.72), but that doesn't mean one thing causes the other directly. For the qualitative part, the themes from NVivo might be a bit off if the researchers didn't have other people check their work.

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Nutritional Assessment of Adolescents Using Anthropometry, Dietary Patterns, and Physical Activity: A Cross-Sectional Study of Students Aged 14 to 18 Years from Selected Schools and Colleges of Secunderabad

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Abstract: Adolescent health is the basis of a nation's growth and development. Health of an individual is mostly dependent on their nutritional status. India has the privilege of being populated with about 65% of youth population under age 35years out of which 27% accounting to 15-29 years as per the population report of 2021. Despite India being the country with largest youth population, the health status of its youth has become a point of concern. Modernization and westernization have become very evident in the youth, especially adolescents, which have high influence in the daily choice of foods and lifestyle. To understand these aspects a survey has been conducted on adolescents of 14 to 18 years in few schools and colleges in secunderabad. The survey unveiled many aspects regarding the daily diet, their habits and practice of various innovations which have led to new opinions and healthier paths and a new ray of hope.

Keywords: Adolescence, Anthropometry, Dietary Patterns, Modernization, Lifestyle.

Introduction

Adolescence, a critical juncture of an individual's lifeand a cross road between the childhood and adulthood. This is acritical period as it is an important stage of life signifying continuous process of physical, physiological and psychological growth and developmental. It is a phase where many youngsters fall prey to many attractions and distractions. World Health Organization states individuals from 10 to 19 years are considered as adolescents. The health condition of the individuals during this period lays the foundation for their life as well as for the future generation.

The adolescent and youth population of a society forms a critical foundation, as their development dictates the future demographic, social, economic, and political landscape. It also implicates overall economic prosperity of the country.

India has surpassed China in population in the year 2025 and became the worlds' leading country in population. The demographic statistics according to reports of United Nation shows that India has reached a population of 1.46 billion by the year 2025. Many factors like decrease in incidence of disease conditions, decrease in infant and maternal mortality rate, increase of lifespan of older adults with decrease of infectious diseases and others etc. have helped in achieving this position. Though the density of population has increased constantly there is a positive note that the current statistics clearly indicates about 65% of youth population are under 35 years of age and out of which 27% accounts to 15 to19 years individuals. This makes India a youthful country which forms a strong backbone in building up its economy. (1)

Health of the individuals has a direct effect on the growth and development of the country. Especially in a country like India whose youth population is in the peak stage this proves absolutely correct. Health of an individual not only directly affect the health status of themselves but also will affects the economy of the country. At the same time, if the population of a country is unhealthy the state's economy is directly affected (2). Youth provide the biological link to the future generations, contribute to the work force and well-being of a nation (3).

Public health nutrition, branch of nutrition indicates a clear significance and corelation between the health and nutrition status assessment using direct and indirect methods. Direct methods involve a direct communication with the individual and includes Anthropometry, Biochemical Parameters, Clinical Signs and Symptoms and Diet History. There are four types of special assessment methods using surveys, surveillance, screening and interventions (4).Body Mass Index (BMI), Waist to Hip ratio, Body Adiposity Index, Waist to Height ratios etc. are very useful in assessing the nutritional status of individuals and relate to their etiology (5).

Dietary assessment of individuals can be done with the help of a questionnaire with food related questions that are to be answered by the individual. These approaches had been using a set of images to support as an explanation and support to the questions included in the questionnaire. Many assessment methods like 24-hour dietary recall, dietary records, food frequency methods use this technique for better understanding and answering of the question (6). This approach can be used in both online and offline for the collection of the data from the participant. However, honesty, modesty and memory are the required qualities of the individual participating in the survey and skill of interviewing skills are the major concerns while the data collection (7).

Relatively, knowledge, aptitude and practice type of surveys are adopted and recommended by the researches which can quantify the qualify factors of the survey (8).

Methodology

Databases referred suggested assessment of nutritional status of individuals using direct methods Anthropometry, Biochemical parameters, Clinical Signs and Symptoms, and Diet History. Out of these directmethods of assessment Anthropometry and Diet History were preferred by many researchers to collect the datafor a Cross-sectional study.

Anthropometric measurements like height, weight, Body Mass Index (BMI), Waist Circumference, Hip Circumference, Waist/Hip, Waist Height ratios etc. are suggested methods by many researchers. Digital weighing machine for weight measurement, Stadiometer to measure height and soft flexible standard measuring tape to measure the waist and hip circumferences

BMI, Waist/Hip ratio and BAI calculated using the formulas.

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Body Mass Index (BMI) = Weight in kg / Height in meter^2

Classification	BMI (kg/m2)
Underweight	<18.5
Normal Range	18.5 – 22.9
Over weight	23 – 24.9
Obesity I	25 – 29.9
Obesity II	>30

Table 1: WHO Classification of BMI for Asians (10)

Waist/Hip Ratio = Waist circumference in cms / Hip circumference in cms.

Sex	Waist-hip Ratio cut-off point
Male	<0.90
Female	<0.80

Table 2: WHO Waist-Hip Ratio Cut-off points (11)

Body Adiposity Index (BAI) = (Hip Circumference (cm) / Height (m)^1.5) (9).

Sex	BAI Ranges
Female	<38
Male	<26

Table 3: BAI Ranges (12)

Dietary habits and physical activity of individuals have a high influence on their nutritional status, especially in adolescents which is a critical phase of growth and development. Dietary habits include individuals' preferences and food choices as well as the frequency of consumption in daily routine. This totally reflects on the nutrient availability to the body, both qualitatively and quantitively, and its effects on the growth and development of the body (13).

Area of Study: The data collection was performed in few selected schools and colleges based on their willingness to participate in the survey. Students of 10th grade, 11th and 12th CBSE and State Board Intermediate first and second-year students were included for the survey as the focus of the study was on the youth population, the adolescents.

A diet survey questionnaire was circulated among the participants with questions related to the general demographic data along with the questions framed on the choice of foods, volume and frequency of food consumption, and types of physical activities performed and frequency of those activities. This data helps to understand and analyse the food preferences. Questions related to frequency of consumption of junk and refined foods, preference of diet patterns like vegetarian, non-vegetarian, ovo and lacto vegetarian, vegan etc. to understand the preference of foods.

The recorded data was then analysed. Asian BMI given by WHO was used to compare the calculated BMI of the participants along with the standards of Waist and Hip ratios. Statisticalanalysis helps in correlating the data collected to various parameters to analyse it further in calculating Z-score and represent graphically (14).

Results and Discussion

The study conducted presented a clear relationship between the nutritional status and dietary patterns and habits of the individuals. It showed that the influence of physical activity was also significant enough to consider. The statistical analysis supports the study further.

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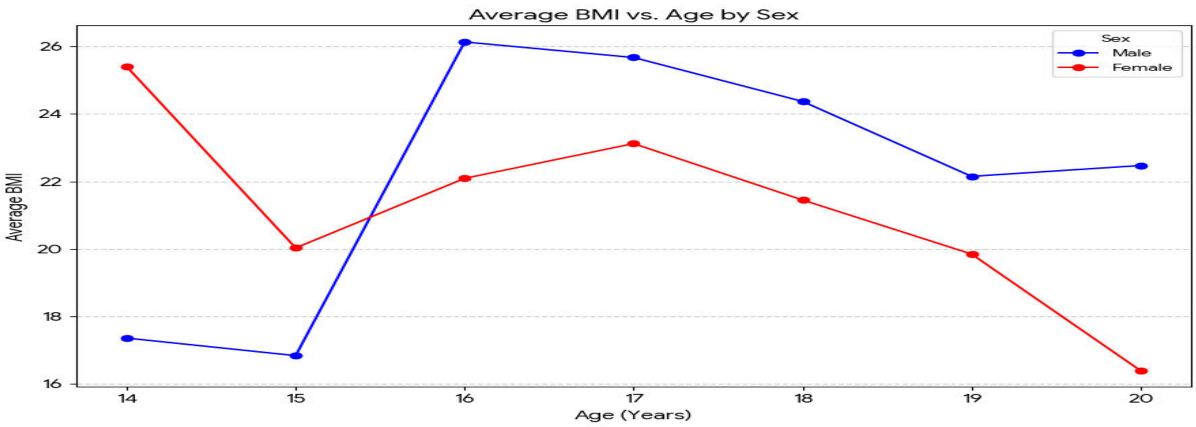

Figure 1: Average BMI vs Age by Sex

The figure shows a comparison of average BMI, age and sex shows girls of 14 years and boys of 16, 17 and 18 years are showing higher BMIs. Girls of 15 – 19 years and boys of 14 – 15 years and 19 years are within ranges of BMI.

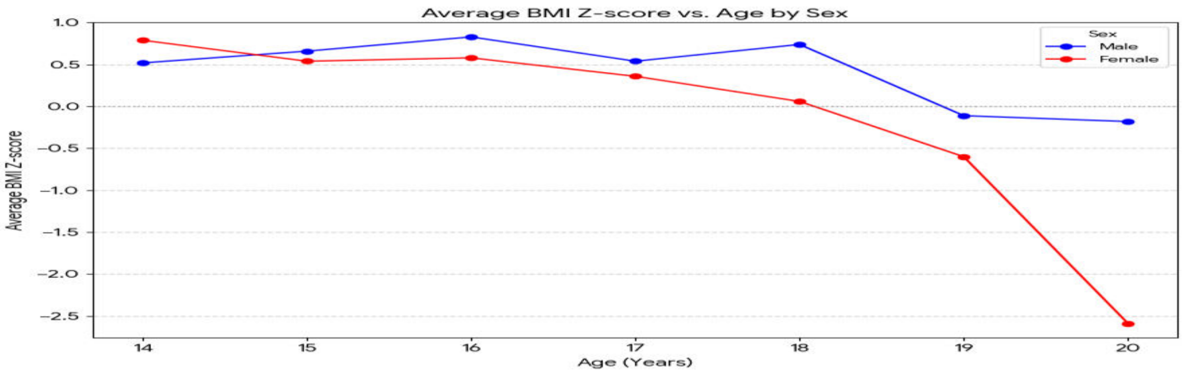

Figure 2: Comparison of waist-hip ratio vs Age by Sex

The comparison of BMI z-score to age in girls shows that the age groups of 15-18 females show a significant relationship more towards neutral to moderately positive showing that the BMI is falling within normal ranges. In contrast age groups of 15-, 17- and 19-year aged boys are showing neutral to moderate positive range of z-scores and 14, 16 and 18 year old boys show a higher positive score showing towards a higher BMI suggesting weight gain.

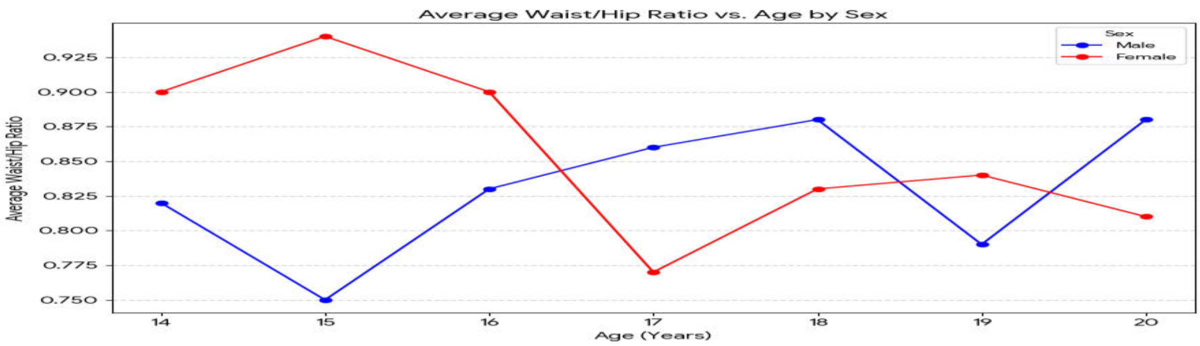

Figure 3: Comparison of waist-hip ratio vs Age by Sex

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The figure compares the waist hip ratio with age and sex. According to standard the waist hip ratios of boys are normal as they fall below 0.9 for all the age groups 14 to 20 years. Whereas the ratios of waist hip ratio of girls are higher in the age of 14 -16 old participants and as the age is increased there is a significant change in the ranges and are falling below 0.85 showing a normal range.

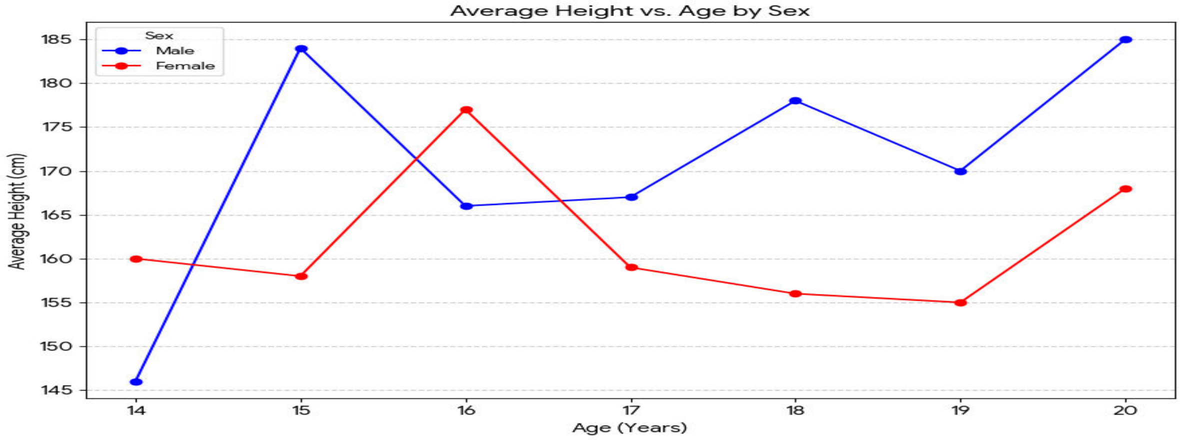

Figure 4: Comparison of Average Height vs Age by Sex

The figure representations that height of both boys and girls have been significantly good for their age and gender.

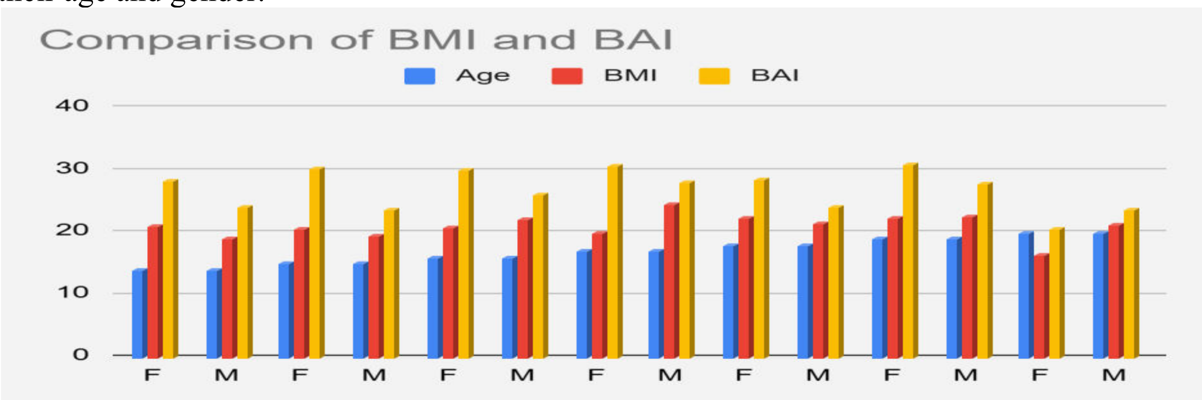

Figure 5: Comparison of BMI and BAI

The graph shows a strong positive correlation between BMI and BAI, Individuals with higher BMI also tend to have a higher BAI, and vice versa. This indicates that both indices are generally tracking the same underlying trend in body composition within this specific group. Females have consistently higher BAI values than males of the same age, which reflects a normal biological difference in body fat composition, as females naturally have a higher percentage of body fat to support during the two significant physiological phases of their life i.e. pregnancy and lactation. These values show the fat deposition in females has been within the required ranges with an exception of few.

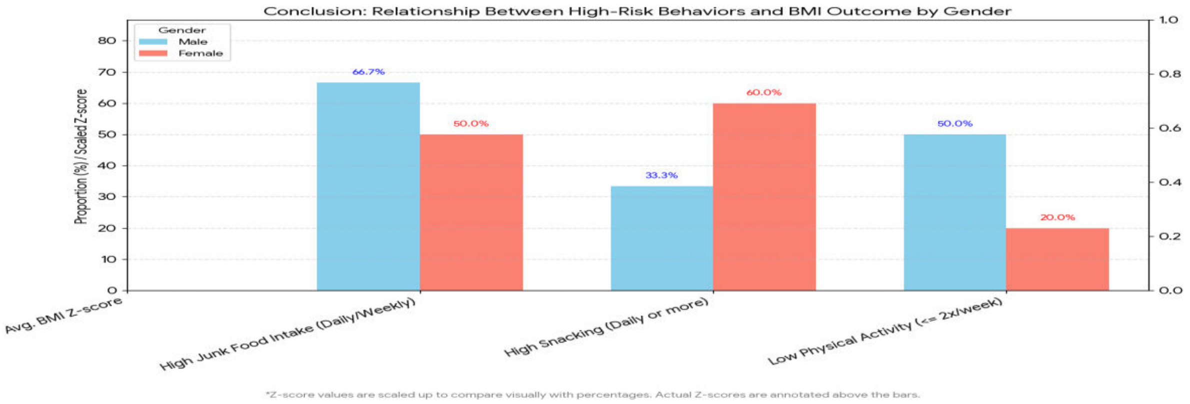

Figure 6: Relationship between high-risk behaviours and BMI vs gender

The figure clearly explains that high intake of junk food and snacking along with decreased physical activity in boys have shown a significant increase in their weight resulting in higher BMI. Girls have shown comparatively low intake of junk foods. Though snacking is higher they physical activity routine has influenced BMI which was within in normal ranges.

Conclusion

In order to attain the Sustainable Development Goal SDG 3 Good Health and Well Being, the knowledge acquired by any means has to be put into practice to show its effect on the health status. The survey conducted clearly indicates a significant increase in the knowledge of nutrition, types of food choices and physical activity by adolescents. A good move was noticed where the acquired knowledge was being put into practice which has reflected in the anthropometric data collected. These good practices were seen more in girls than in boys. Practicing the acquired knowledge to improve their physical and mental state of the body not only helps in improving their health standards but also would have a positive effect in growth and development of the country in the coming future proving the fact that healthy body aids in restoring a healthy mind.

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Enhancing Hospital Service Efficiency with AI-Powered Smart Queue Management

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Abstract: Long waits in hospitals frustrate patients and can even lead to serious health risks, like worsening conditions in emergencies such as heart attacks or infections. Old-school "first-come, first-served" lines just don't keep up with who's really in need right now. Our study from Jalgaon hospitals introduces a smart AI systeman Intelligent Triage Engine (ITE)that quickly scores patient urgency using basic vitals, symptoms, and past records. Real observations showed chaotic morning rushes and delayed critical cases. We expect 20-35% shorter waits, happier staff with 40% less paperwork time, and fewer patients leaving without care. This practical hybrid setup with apps and kiosks beats what's currently available in India.

Keywords: Smart Queue Management, AI Triage, Hospital Wait Times, Dynamic Prioritization, Patient Flow Optimization, Queue Analytics

1. Introduction

Picture a busy hospital in Jalgaon where patients crowd registration counters every morning, emergency cases wait behind routine check-ups, and no one knows how long the line will take. That's the reality in many Indian hospitals using basic FIFO (first-in, first-out) systems. These don't factor in urgency, doctor availability, or sudden changes in a patient's condition, leading to delays that can exceed safe limitslike over 6 hours for stroke victims needing intensive care.

Local hospitals serving urban and rural folks rely on manual queues for OPD, consultations, and emergencies, with no live updates. While apps like Qwaiting help with basic remote booking, they miss the real danger: spotting patients who deteriorate while waiting. Our straightforward AI-driven Smart Queue Management System (SQMS) fixes this by constantly reassessing risks and shuffling lines smartly.

2. Objectives

We aimed to:

- Slash patient waiting and total visit times.
- Free up staff and rooms for better use.
- Boost satisfaction scores.
- Cut "left without being seen" cases with easy mobile check-ins

3. Literature Review and Data Insights

Hospital queues have evolved from paper tickets (no real time savings) to kiosks (less front-desk hassle but still on-site waits), now to AI apps with live tracking. Studies show people hate feeling stuck more than actual delaysreal-time updates via phone calm nerves.

In India, systems like Doc True sync queues across labs and billing but use fixed rules (e.g., seniors first). Our edge Continuous AI checks for hidden risks, unlike their admin focus.

Key Data Analysis: Observed Peak Waits

From on-site observations:

Wait Time Analysis (Morning Peak Hours, Minutes)			
Queue Type	**Avg Wait**	**Max Wait**	**% Over 30min**
Registration	45	90	65%
Consultation	35	75	52%
Emergency	25	60	38%

This highlights why dynamic tools are urgent.

4. Methodology

We watched real patient flows in Jalgaon—no surveys, just eyes-on action: mapping lines, noting jams at peaks (8-11 AM), and chatting informally with staff about pains like manual calling and emergency mix-ups. No patient data touched for privacy. Findings? Chaos from static lines, staff burnout on crowd control, zero wait transparency.

5. Our Proposed Solution

5.1 Simple Layered Setup

Everyone covered—tech-savvy or not.

Layer	**Tools**	**What It Does**
User	Phone App/Web	Join queue from home, see status
On-Site	Kiosk Machines	Quick tickets for walk-ins
Brain	AI Cloud	Reorders line by need, predicts waits
Alerts	Screens & SMS	"Your turn in 5 mins!"

5.2 Smart Scoring Formula

No more guesswork: Priority = (Wait Time × Fairness Factor) + (Urgency Score × Severity). Urgency rates 1-5 from symptoms/vitals; recalculates live. A feverish kid spiking sepsis risk jumps ahead instantly.

Patient Flow Chart

1. Arrive → App/Kiosk: Enter symptoms, check vitals, grab EHR history.
2. AI Scores (1-100) → Checks doctor/room needs vs. availability.
3. Line Shuffles → Doctor pings: "High risk—see now".
4. SMS Call → Auto-move to next (lab/pharmacy) with one ID.

6. Expected Results with Visuals

6.1 Numbers That Matter

From hospitals using similar tech:

Metric	**Now (Pain Point)**	**After AI (Gain)**
Avg Wait Time	35-45 min	-25% (26 min)
Missed Appointments	High no-shows	-15%
Staff Paperwork	40% time wasted	-40%

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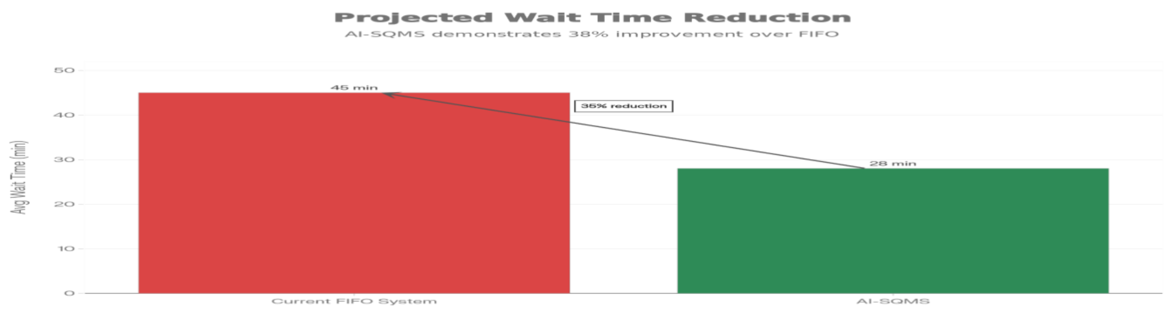
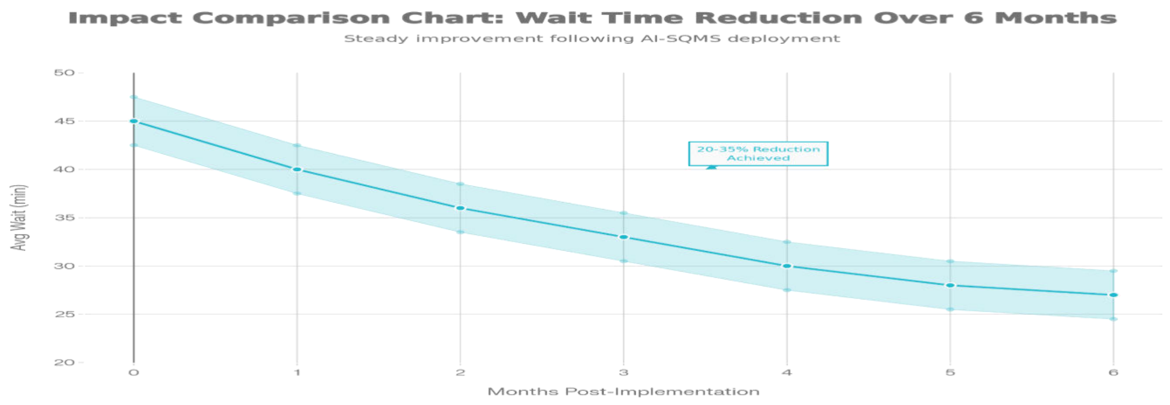


Projected Wait Time Reduction Graph: 35% drop from 45 min (current) to 28 min (AI-SQMS).

6.2 Why We're Better

Feature	Today's Apps	Our ITE Magic
Line Order	Fixed (VIP first)	Live risk re-scan
Risk Watch	Nothing	Spots worsening remotely
Staffing	React now	Predicts needs ahead

Lobbies empty out (wait in car!), heatmaps show busy Mondays for smart shifts.
Impact Comparison Chart



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7. Real Talk: Challenges & Fixes and Future ideas.

Not everyone's app-ready (older patients)keep kiosks and helpers. Linking to old systems costs money, so start small. India's got queue apps, but ours adds life-saving smarts on top.
This isn't just faster linesit's safer hospitals where AI spots who can't wait, turning stress into smooth care. Perfect for busy Indian setups.

Future Ideas

Predict crowds from weather (rainy flu surges) or history; add wearable vitals for non-stop checks.

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A Study on the Impact of Public Opinion on Professional Makeup Services: A Comparative Analysis of Rural vs. Urban Markets

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Abstract: This study examines how public opinion shapes the demand, acceptance, and overall perception of professional makeup services in rural and urban markets. As the beauty industry rapidly expands, understanding consumer attitudes becomes vital for makeup artists, cosmetic brands, and service providers. Using secondary data and theoretical insights, this research highlights differences in awareness levels, cultural perspectives, affordability concerns, and trust in professional makeup across different geographic settings. The study concludes that public opinion plays a significant role in determining market growth and offers recommendations for bridging the rural–urban perception gap.

Introduction

The beauty and cosmetics industry in India has experienced remarkable growth over the past decade, driven by increasing disposable income, digital influence, and shifting beauty standards. Professional makeup services—once considered a luxury—have become common across weddings, events, photography, and social media content creation. However, perceptions of these services vary widely between rural and urban areas due to differences in lifestyle, exposure, and cultural norms. This study explores the **impact of public opinion** on the adoption and demand for professional makeup services, comparing the attitudes of rural and urban consumers.

Research Problem

Despite growing demand for makeup services, a clear disparity exists between rural and urban markets. Urban consumers tend to view makeup services as essential for events and self-presentation, while rural consumers often see them as optional or extravagant. Understanding how public opinion shapes these differences is essential for market expansion.

Objectives of the Study

- To analyze public attitudes toward professional makeup services in rural and urban areas.
- To identify factors influencing consumer opinions and acceptance of makeup services.
- To compare awareness, usage patterns, and trust toward professional makeup artists across the two regions.
- To provide recommendations for improving service reach in rural markets.

Scope of the Study

- The study covers:
- Public attitudes in rural and urban India
- Perception of professional makeup services for weddings, functions, photography, and daily grooming

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- Influence of culture, media, cost, and awareness on consumer opinions
- Comparison of decision-making patterns and expectations across markets

Review of Literature (Secondary Data-Based)

Various studies highlight that **urban consumers** are more exposed to beauty trends through social media, advertisements, and influencer culture. Researchers have noted that urban markets exhibit higher acceptance of professional grooming services due to lifestyle changes and career-oriented demands. In contrast, **rural markets** often retain traditional beauty norms, where home-based grooming is preferred, and professional services are used mainly for weddings or festivals. Economic constraints, limited availability of trained artists, and lower awareness contribute to conservative public opinion. Studies also indicate that public perception is shaped by cultural norms, brand influence, product accessibility, and social validation. With rising smartphone usage, rural areas are slowly adopting modern beauty trends, but the perception gap remains notable.

Research Methodology

- This study is based on **secondary data**, including:
- Academic journals
- Industry reports
- Beauty market analysis
- Articles, surveys, and expert insights
The research follows a descriptive approach to analyze existing data and compare consumer perception across rural and urban markets.

Data Analysis & Discussion

Urban Consumer Perception

- High awareness of makeup trends and beauty influencers
- Frequent use of professional services for parties, photoshoots, engagements, and corporate events
- Trust in certified makeup artists and branded products
- Public opinion favors professional makeup as essential for polished appearance
- Higher willingness to spend

Rural Consumer Perception

- Makeup services usually associated with weddings or traditional festivals
- Limited awareness of advanced techniques like HD or airbrush makeup
- Higher price sensitivity
- Public opinion influenced by cultural values and community norms
- Some resistance due to belief that makeup is artificial or unnecessary
- Growing but slow adoption due to smartphone exposure

Key Public Opinion Differences

Aspect	Urban	Rural
Awareness	Very high	Moderate to low
Acceptance	High	Conditional
Usage frequency	Regular	Occasional
Price sensitivity	Low–medium	High
Trust	High in professionals	More trust in home-based/local artists
Media influence	Strong	Emerging

Findings

- Public opinion plays a major role in determining demand for makeup services.
- Urban consumers show strong acceptance due to modern lifestyle, exposure, and brand awareness.
- Rural opinion is more traditional, cost-driven, and conservative.
- Digital media is gradually reducing perception gaps but not eliminating them.
- Professional makeup artists face more challenges in rural markets due to misconceptions and low awareness.

Conclusion

The study concludes that public opinion significantly influences consumer behavior toward professional makeup services. Urban markets demonstrate higher acceptance and demand, while rural markets still lag due to cultural attitudes, affordability concerns, and limited exposure. However, with increasing digital penetration, social media influence, and improved accessibility, rural perceptions are changing slowly. Addressing these opinion gaps can help expand the makeup industry across regions.

Recommendations

- Conduct awareness workshops in rural areas
- Promote affordable service packages
- Increase digital marketing in local languages
- Build trust through certifications and customer testimonials
- Collaborate with rural wedding planners and salons
- Provide trial sessions to change misconceptions

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Reimagining Schooling as an Entrepreneurial Ecosystem: A Case Study of Riverside School Ahmedabad's 'I CAN' Pedagogy and Its Impact on Economic Reskilling among Learners

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Abstract: The objective of the paper is to Prepare children for an uncertain economic future demands pedagogies that go beyond academic content. This research paper examines how Riverside School, Ahmedabad, positions itself as an entrepreneurial ecosystem through its globally recognised "I CAN" pedagogy. Using a qualitative case study approach, the paper explores how student-led projects, community problem-solving cycles, and real-life market simulations cultivate entrepreneurial mind-sets and economically relevant skills among learners. Primary observational insights and secondary analyses of publicly available Riverside documentation indicate that students develop confidence, financial awareness, opportunity recognition, collaboration, and ethical judgement. The study argues that Riverside's approach is a viable model for rethinking mainstream education, making it more relevant to 21st-century economic challenges. The findings highlight how experiential, agency-driven learning can reskill young students to navigate an innovation-based economy with responsibility and empathy.

Keywords: Entrepreneurial pedagogy, Riverside School, I CAN approach, experiential learning, economic reskilling, student agency, design thinking, innovative schooling, case study, 21st-century skills.

1. Introduction

The global economy has become increasingly volatile due to technological disruption, artificial intelligence, automation, digital entrepreneurship, and redefined workforce expectations. Children entering this unpredictable landscape must possess adaptability, innovation, and economic understanding—skills that traditional education systems seldom emphasise. In India, schooling has historically been dominated by examinations and memorisation. As a result, students may excel academically yet struggle to convert knowledge into practical, economically meaningful competencies.

Riverside School Ahmedabad challenges this traditional model by positioning itself as an entrepreneurial ecosystem. Its pedagogical approach encourages children to observe, empathise, create, implement, and reflect—mirroring the authentic processes of entrepreneurship. This study explores how Riverside embeds entrepreneurial learning in everyday classroom experiences and how these practices contribute to economic reskilling,

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shaping learners who can not only adapt but also innovate.

2. Review of Literature

0.1 Entrepreneurship Education as a Mindset
Scholars such as Kuratko (2005) argue that entrepreneurship education is fundamentally about shaping a mindset of opportunity recognition, autonomy, and resilience rather than teaching business mechanics alone.

0.2 Experiential Learning Theory
Kolb (1984) emphasises that learning becomes powerful when rooted in experience, reflection, conceptualisation, and active experimentation. This cycle forms the backbone of entrepreneurial education globally.

0.3 School-Based Entrepreneurship Models
European studies (European Commission, 2015) show that early exposure to project-based entrepreneurial tasks significantly improves confidence, initiative, and resource management.

0.4 Social-Emotional Learning (SEL) and Entrepreneurship
Research by Durlak et al. (2011) indicates that emotional regulation, empathy, and collaboration—core elements of SEL—directly support entrepreneurial ability.

0.5 Design Thinking in Education
Brown & Wyatt (2010) describe design thinking as a human-centred innovation process that encourages empathy-driven problem solving. Riverside's pedagogy mirrors this framework.

0.6 Economic Reskilling Trends
World Economic Forum reports (2018, 2021) highlight that creativity, leadership, financial literacy, and adaptability are now top skills required for economic survival in the 21st century.

0.7 Student Agency in Learning
Bandura's theory of self-efficacy (1997) underscores the importance of agency—the belief that one's actions can influence outcomes. Riverside's "I CAN" pedagogy is a practical manifestation of this theory.

0.8 Role of Community-Based Learning
Studies in educational sociology (Meier, 2002) show that community engagement enhances children's understanding of real economies and social ecosystems.

0.9 Entrepreneurship for Holistic Development
Gibb (2002) points out that entrepreneurial learning equips students with courage, adaptability, creativity, and risk appreciation—traits crucial for lifelong success.

0.10 Indian Education and NEP 2020 Alignment
NEP 2020 emphasises experiential learning, multidisciplinary thinking, and skill-based education, aligning strongly with Riverside's established model of practice.

3. About Riverside School

Riverside School was founded in 2001 by designer and educator Kiran BirSethi. Built on the belief that children are capable of leading change, Riverside developed the "I CAN" approach—an empathy-driven cycle of Feel, Imagine, Do, and Share. The approach gained global prominence through the Design for Change (DFC) movement, now present in over 60 countries. Riverside's curriculum integrates design thinking, market simulations, community immersion, and reflection, enabling students to experience entrepreneurship in an organic, humanistic, and socially responsible manner.

4. Methodology

This research adopts a qualitative case study method, analysing publicly available

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sources such as Riverside's official publications, conference talks, student project archives, and DFC documentation. The analysis focuses on identifying patterns of entrepreneurial behaviour, pedagogical structures, and indicators of economic reskilling. No primary interviews were conducted, and interpretations are drawn from documentary evidence alone.

5. Findings & Analysis

Riverside's pedagogical approach demonstrates a powerful integration of entrepreneurial learning and emotional development. Students are consistently exposed to real-world situations through project cycles where they identify a need, research community challenges, design solutions, and execute actions. These experiences develop financial awareness through budget planning, cost estimation, and resource management. Students often participate in market events where they conceptualise products, set prices, handle sales, negotiate, and reflect on profit outcomes.

Empathy plays a central role in Riverside's entrepreneurial ecosystem. Students learn to observe community pain points, which strengthens ethical decision-making and ensures that entrepreneurship is value-driven rather than purely profit-driven. Additionally, collaborative projects cultivate teamwork, communication, and leadership skills, enabling learners to take ownership of both successes and failures.

The "I CAN" pedagogy transforms children from passive receivers of information into active creators of economic and social value. The design thinking process—Feel, Imagine, Do, Share—encourages iteration, resilience, and adaptability, which are all essential entrepreneurial traits. Students develop confidence in their ability to influence outcomes, a characteristic strongly linked to self-efficacy and long-term entrepreneurial success.

6. Discussion

The case study reveals that Riverside School's model successfully positions schooling as an entrepreneurial ecosystem by embedding real-life economic experiences within everyday learning.

Unlike conventional schools, where entrepreneurship is treated as a theoretical concept, Riverside ensures that children encounter authentic scenarios requiring decision-making, financial reasoning, negotiation, and leadership. This demonstrates that entrepreneurship in schooling can be taught through experience rather than lectures.

Moreover, Riverside exemplifies how ethical and humanistic values can coexist with economic reskilling. Students are motivated not merely to create economic value but to design socially meaningful solutions. This approach aligns with contemporary discourses on responsible entrepreneurship and sustainable development. The model offers a significant departure from rote-based Indian schooling and highlights a viable direction for NEP 2020 implementation.

The findings imply that entrepreneurship-based learning fosters holistic growth by connecting emotional, social, and economic competencies. Schools adopting this method can expect improved student confidence, problem-solving ability, and adaptability, all of which are vital for future economies.

7. Limitations

The study relies solely on publicly available documentation, which may not capture deeper internal processes or challenges faced by the school. No student or teacher interviews were conducted, limiting the ability to triangulate findings. Additionally, the successes highlighted by

Riverside may reflect a context-specific model that may not be fully replicable in schools with fewer resources or different socio-economic environments.

8. Conclusion

Riverside School Ahmedabad offers a compelling example of how entrepreneurship can be seamlessly woven into schooling to support economic reskilling. Its "I CAN" pedagogy transforms learners into confident, empathetic, and innovative thinkers capable of navigating the evolving demands of the global economy. The school's model is not only effective but also scalable, offering a practical blueprint for Indian and international institutions seeking to reimagine education for the 21st century.

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Comparative Study on Micro Insurance of Public and Private Sector Life Insurance Companies

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Abstract: Micro life insurance products are designed specifically for economically weaker sections of society. These plans usually offer smaller insurance coverage, flexible payment options, and are made available through easy-to-reach channels such as self-help groups, microfinance institutions, non-governmental organizations, and cooperative societies. Both public and private life insurance companies offer micro insurance, but they differ in how they design products, reach customers, and perform in the market. The comparative analysis highlights that while private insurers bring efficiency and innovation, public sector participation remains vital for inclusive growth. Strengthening collaboration between public and private insurers, enhancing awareness, and improving product design can significantly increase micro insurance penetration.

Key Words: Micro Insurance, Low-Income Households, Risk Protection, Comparative Study.

Introduction

Insurance helps people protect themselves financially from unexpected events in life. However, a large number of people in India—especially those from low-income families, rural areas, and the informal workforce—do not have enough insurance or any insurance at all. This is mainly because of low income, lack of awareness, and the high cost of regular insurance plans. To solve this problem, micro insurance was introduced. Micro life insurance offers low-cost insurance with simple terms, making it easier for poor and vulnerable people to afford and understand. In India, the growth of micro insurance has been encouraged by the Insurance Regulatory and Development Authority of India (IRDAI), which has introduced special rules to support inclusive insurance.

Micro life insurance products are designed specifically for economically weaker sections of society. These plans usually offer smaller insurance coverage, flexible payment options, and are made available through easy-to-reach channels such as self-help groups, microfinance institutions, non-governmental organizations, and cooperative societies. Both public and private life insurance companies offer micro insurance, but they differ in how they design products, reach customers, and perform in the market.

The Life Insurance Corporation of India (LIC), the only public sector life insurance company, has traditionally played a major role in providing insurance to rural and disadvantaged communities through its wide network of agents. On the other hand, private insurance companies like HDFC Life, ICICI Prudential Life, and SBI Life

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follow more business-oriented approaches. They mainly use banks, group insurance schemes, and digital platforms to reach customers. These differences raise important questions about how effective public and private insurers are in expanding micro insurance coverage in India.

This study compares micro life insurance offered by public and private insurance companies in India. It looks at their products, coverage, distribution methods, and overall performance. By identifying the strengths and weaknesses of both sectors, the study aims to help policymakers, regulators, and insurance companies improve the reach and impact of micro insurance across the country.

Statement of the Problem

Even though India's insurance sector has grown over the years, a large section of the population—especially low-income families, people working in the informal sector, and those living in rural areas—still does not have enough insurance coverage. Micro insurance was introduced to solve this problem by providing low-cost and easily accessible insurance. Both public and private life insurance companies offer micro insurance products, but they differ in terms of product design, methods of reaching customers, level of outreach, and overall performance.

The Life Insurance Corporation of India (LIC), which is a public sector insurer, mainly works with the goal of social welfare, while private life insurance companies focus more on business and profit-driven strategies. However, there is very little research that clearly compares how well public and private insurers perform in providing micro life insurance in India. Because of this, it is not clear whether the involvement of private companies has improved micro insurance coverage or if the public sector is still more effective in serving low-income groups. This study aims to fill this gap by comparing the role and performance of public and private life insurance companies in the micro insurance sector.

Objectives of the Study

The main objectives of the study are:

1. To understand the concept and significance of micro life insurance in India.
2. To compare the micro insurance products offered by public and private life insurance companies.
3. To compare the performance of selected public and private life insurers in the micro insurance segment.
4. To analyze differences in coverage, premium structure, and distribution channels between public and private insurers.

Scope of the Study

The scope of the study is limited to **micro life insurance products** offered by selected life insurance companies in India. The study focuses on:

- One public sector insurer: **Life Insurance Corporation of India (LIC)**
- Selected private sector insurers: **HDFC Life Insurance, ICICI Prudential Life**

Insurance, and SBI Life Insurance

The analysis covers aspects such as product features, premium affordability, coverage limits, and distribution mechanisms. The study is based on secondary data and does not include primary field surveys. The time period of analysis is limited to recent years as per availability of published data.

Research Methodology

The study is descriptive and analytical in nature and is based entirely on secondary data.

Sources of Data for the present analysis is published report of IRDAI.

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Limitations of the Study

1. The study is based solely on secondary data, which may have inherent limitations.
2. Availability of company-wise micro insurance data is limited.
3. The study covers only selected life insurance companies and may not represent the entire industry.
4. Changes in regulations or product offerings over time may affect comparability.

Review of Literature

Many studies have discussed the importance of micro insurance in improving financial inclusion in India. Past research shows that micro insurance helps low-income families by protecting them financially against risks related to life, such as death or illness. These studies also point out that problems like lack of awareness, low income, and lack of trust in insurance companies make it difficult to expand micro insurance coverage.

Research comparing public and private insurance companies shows clear differences between the two. Public sector insurers, especially LIC, have a strong presence in rural areas and enjoy higher trust among customers. In contrast, private insurance companies are known for introducing innovative products and modern distribution methods, but their reach in remote rural regions is still limited. Most existing studies either focus on micro insurance as a whole or examine individual insurance companies. Very few studies directly compare public and private life insurers, which creates a research gap that this study aims to fill.

Overall, micro insurance is widely seen as an important tool for promoting financial inclusion by offering affordable insurance to economically weaker and vulnerable groups. In a country like India, where a large number of people work in the informal sector and cannot access regular insurance plans, micro life insurance becomes especially important. As a result, researchers, policymakers, and regulators are paying increasing attention to the role, performance, and challenges of micro life insurance provided by both public and private insurance companies.

The IRDAI Annual Reports (2022, 2023) confirm that while overall micro insurance premiums have grown, individual micro insurance policies have declined relative to group policies. These reports underscore the need for improved policy design, awareness campaigns, and collaboration between public and private insurers.

Kumar and Rao (2018) examined rural households' awareness and perception of micro life insurance, concluding that affordability attracts policyholders, but low awareness and procedural complexities limit adoption. **Singh and Tandon (2019)** highlighted that group micro insurance accounts for the majority of the segment, with private insurers preferring group models due to lower administrative costs. Public insurers, in contrast, continue to focus on individual micro insurance products to fulfill social objectives.

Garg and Agarwal (2014) found that LIC dominates India's micro insurance segment due to its extensive rural network and public trust. Private insurers, on the other hand, prioritize efficiency and profitability, often favoring group micro insurance over individual policies. Mishra and Sethi (2016) reinforced these findings, observing that private insurers are more innovative and customer-centric, while public insurers emphasize social welfare objectives. Both studies indicated that micro insurance penetration remains relatively low, highlighting the need for increased awareness and simplified processes.

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The Insurance Regulatory and Development Authority of India (IRDAI, 2011) introduced specific regulations for micro insurance to promote inclusive growth. The regulations permitted insurers to offer products with lower sum assured and flexible premiums through micro insurance agents. Public sector insurers, particularly the Life Insurance Corporation of India (LIC), were identified as crucial players in rural outreach, while private insurers increasingly entered the segment through group insurance and bancassurance channels.

Banerjee and Duflo (2011) emphasized that insurance products for the poor must be simple, transparent, and trustworthy. Public institutions often enjoy higher credibility among low-income households, supporting LIC's dominant role in India. Nair and Krishnan (2020) also noted that private insurers have expanded rapidly through bancassurance and digital platforms, while LIC maintains leadership in rural micro insurance due to its long-standing presence and government backing.

Roth, McCord, and Liber (2007) analyzed micro insurance globally and concluded that lack of awareness, limited financial literacy, and high transaction costs impede its growth. They emphasized that partnerships between insurers, non-governmental organizations (NGOs), and microfinance institutions (MFIs) are crucial for expanding outreach—a finding highly relevant to the Indian context.

Churchill (2006) defined micro insurance as insurance specifically designed for low-income households, characterized by low premiums, limited coverage, and simplified procedures. Churchill emphasized that the success of micro insurance depends largely on product simplicity, affordability, trust, and efficient delivery mechanisms. This foundational framework has guided subsequent studies in India and other developing countries.

Dror and Jacquier (1999) examined micro insurance as a risk-sharing mechanism among low-income communities, asserting that it can significantly reduce vulnerability if supported by appropriate institutional and regulatory frameworks. The study highlighted the importance of government and public sector participation in building credibility and trust, which is particularly relevant in India, where public insurers often have social welfare objectives.
Overall, the review reveals a **research gap**: few studies provide a direct comparative analysis of micro life insurance performance between public and private life insurers in India. This gap forms the basis for the present study, which seeks to evaluate and compare product offerings, distribution mechanisms, and outreach effectiveness in the micro insurance segment.

Comparative Performance of Public and Private Life Insurance Companies in Micro Insurance

The micro insurance sector in India plays a crucial role in providing life insurance coverage to low-income and economically vulnerable populations. Both public and private life insurance companies participate in this segment, with the Life Insurance Corporation of India (LIC) representing the public sector, and companies such as HDFC Life, ICICI Prudential Life, and SBI Life representing the private sector. While LIC has traditionally focused on social welfare objectives and has a strong presence in rural and semi-urban areas, private insurers have adopted more market-oriented strategies by leveraging bancassurance, group insurance models, and digital platforms. These companies also emphasize product innovation and operational efficiency. The differences in approach, outreach, and performance make

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it important to compare the role of LIC with that of private insurers in the micro insurance sector. This section examines and compares LIC, HDFC Life, ICICI Prudential Life, and SBI Life to understand their contribution, effectiveness, and challenges in expanding micro insurance coverage in India.

Micro insurance revenue in India is growing overall, with *group premiums* making up the bulk of the segment's volume rather than individual micro policies. LIC remains the largest insurer and has the broadest geographical reach, an advantage for micro insurance distribution, though its micro segment premium share is modest relative to private peers in pure micro products. HDFC Life and ICICI Prudential Life are competitive in product innovation and distribution but see stronger revenues from broader retail and group segments than specifically from micro insurance alone. SBI Life leverages the SBI network to scale micro and regular insurance effectively, often yielding strong individual business growth within private insurers.

Feature	**LIC**	**HDFC Life**	**ICICI Pru Life**	**SBI Life**
Rural/Micro Outreach	Strongest due to vast field force and agency network across India	Moderate but growing via bancassurance partners	Growing via bancassurance and digital	Strong via SBI's extensive banking network
Digital Channels	Improving but historically agency-centric	Strong direct and digital tools	Advanced online capabilities and bancassurance	Integrated with SBI banking apps and digital channels
Expense & Cost Efficiency	Higher operating cost ratio typical of large PSU insurer	Often lower cost ratios versus LIC	Competitive cost control with higher unit-linked offerings	Balanced cost via extensive branch network
Micro Insurance Product(s)	LIC's Micro Bachat	HDFC Life Group Jeevan Suraksha (Micro)	ICICI Pru Sarv Jana Suraksha	SBI Life Grameen Shakti
	LIC's Jan Suraksha	Group Micro Term Insurance	ICICI Pru Anmol Bachat	SBI Life Grameen Super Suraksha
				SBI Life Group Micro Shield
Type	Individual	Group	Individual / Group	Individual / Group
Nature of Cover	Savings + Protection	Pure Protection	Protection + Savings	Protection (some with ROP*)
Sum Assured Range	₹5,000 – ₹2,00,000	₹10,000 – ₹2,00,000	₹10,000 – ₹2,00,000	₹10,000 – ₹2,00,000
Premium Frequency	Weekly / Monthly / Quarterly / Yearly	Monthly / Yearly	Monthly / Yearly	Monthly / Yearly

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Premium Level	Very low, suitable for daily-wage earners	Low	Low to moderate	Low
Policy Term	5–15 years	1–10 years (group)	5–15 years	5–15 years
Maturity Benefit	Yes (in Micro Bachat)	No (mostly term)	Yes (in Anmol Bachat)	Limited (some ROP plans)
Target Population	Rural & low-income households	Low-income groups via institutions	Urban & semi-urban low-income groups	Rural & semi-urban low-income groups
Distribution Channel	Agents, NGOs, SHGs, MFIs	Bancassurance, NGOs, MFIs	Bancassurance, digital, MFIs	SBI branches, agents, MFIs
Rural Reach	Highest	Low	Low	Moderate
Digital Usage	Low	High	High	Moderate
Strengths	Massive rural reach, trust, flexible premium payment	Efficient administration, strong bancassurance	Product variety, strong customer service	Strong bank network, group micro products
Limitations	Limited innovation, slower product updates	Less rural penetration	Micro segment not primary focus	Less individual micro customization

The Life Insurance Corporation of India (LIC), as the sole public sector insurer, has traditionally focused on individual micro insurance policies, while private insurers have increasingly emphasized group-based micro insurance to achieve wider coverage. An analysis of policy numbers, lives covered, and premium collected over the period from 2019–20 to 2023–24 helps in understanding the comparative role and effectiveness of public and private sector insurers in the micro insurance sector.

Comparative Financial Performance Under Micro Insurance Plan

Table 1: Number of Policies (Individual Category)

Insurer	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Public Sector (LIC)	859,375	992,200	732,007	323,767	238,898
Private Sector	169,017	77,464	144,975	125,753	101,873
Total	1,028,392	1,069,664	876,982	449,520	340,771

Table 2: Premium (₹lakh) (Individual Category)

Insurer	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Public Sector (LIC)	22,208.97	35,293.18	25,792.36	16,474.15	13,485.11
Private Sector	456.74	233.94	3,921.85	3,544.68	1,772
Total	22,665.71	35,527.12	29,714.21	20,018.83	15,257.46

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Table 3: No. of Lives covered (Group Category)					
Insurer	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Public Sector (LIC)	5,796,172	4,262,206	5,496,957	7,220,631	3,049,410
Private Sector	134,932,822	97,036,954	126,575,890	155,463,417	175,342,522
Total	140,728,994	101,299,160	132,072,847	162,684,048	178,391,932

Table 4: Premium (₹lakh) (Group Category)					
Insurer	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Public Sector (LIC)	3,455.13	11,452.57	6,736.63	5,114.31	1708.52
Private Sector	439,190.29	409,853.18	598,151.75	854,147.07	1,069,073
Total	442,645.42	421,305.75	604,888.38	859,261.38	1,070,781.69

Source: IRDAI Annual Hand Books

Findings

The data shows a clear difference between the performance of public and private sector life insurers in the micro insurance segment over the period 2019–20 to 2023–24. In the individual category, LIC dominates in terms of the number of policies and premium collected throughout the period, although both policies and premium show a declining trend after 2020–21. Private insurers contribute a much smaller share in individual micro insurance and also display fluctuations, with an overall decline in recent years.

In contrast, in the group category, private sector insurers clearly outperform LIC. The number of lives covered by private insurers is significantly higher and shows a strong increasing trend, especially from 2021–22 onwards. Similarly, premium collected under group micro insurance by private insurers has grown steadily and forms the major share of total premium. LIC's performance in the group category remains limited and relatively unstable.

Overall, the analysis indicates that LIC continues to play a dominant role in individual micro insurance, reflecting its traditional focus on social security and individual policyholders, while private insurers are more effective in expanding group micro insurance, leveraging bancassurance, institutional tie-ups, and large-scale group coverage models.

Conclusion

The comparative analysis of public and private sector life insurance companies in the micro insurance sector reveals distinct roles played by each sector in promoting insurance inclusion in India. The Life Insurance Corporation of India (LIC) continues to dominate the individual micro insurance segment, reflecting its strong rural presence, social welfare orientation, and long-standing trust among low-income policyholders. However, LIC's performance shows a declining trend in recent years in terms of both the number of policies and premium collected.

On the other hand, private sector life insurance companies have demonstrated greater effectiveness in the group micro insurance segment. They cover a significantly larger number of lives and collect a higher share of premium, mainly through bancassurance, institutional partnerships, and group-based insurance models. The steady growth in group insurance coverage highlights the ability of private insurers to leverage scale and technology to expand outreach.

Overall, the findings suggest that while LIC plays a crucial role in providing individual-level micro insurance protection, private insurers contribute more effectively to large-scale group coverage. A balanced approach that combines LIC's social outreach strengths with the operational efficiency and innovation of private insurers can further enhance the reach and impact of micro insurance in India. Policymakers and regulators should encourage collaboration, product innovation, and awareness initiatives to ensure sustainable growth of micro insurance and greater financial protection for vulnerable populations.

Micro life insurance plays a crucial role in extending financial protection to economically weaker sections of society in India. Both public and private life insurance companies contribute to the development of the micro insurance segment, albeit through different approaches. The public sector insurer, LIC, benefits from extensive rural outreach and public trust, while private insurers leverage technology, bancassurance, and group insurance models to expand coverage.

The comparative analysis highlights that while private insurers bring efficiency and innovation, public sector participation remains vital for inclusive growth. Strengthening collaboration between public and private insurers, enhancing awareness, and improving product design can significantly increase micro insurance penetration. The study concludes that a balanced and inclusive approach is essential for achieving the broader goal of financial inclusion through micro insurance in India.

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- Banerjee & Duflo (2011), Churchill (2006), and IRDAI reports form the theoretical and regulatory basis, while empirical studies (Garg & Agarwal, Mishra & Sethi, Kumar & Rao, Singh & Tandon) provide evidence on outreach, product features, and sectoral differences.

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A Study on the Role of Electric Vehicles in Environmental Sustainability with Reference to Indore City

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Abstract: The growing concern over environmental degradation, urban air pollution and climate change has intensified the need for sustainable transportation systems across Indian cities. Electric vehicles (EVs) have emerged as a promising alternative to conventional fuel-based vehicles due to their potential to reduce emissions, dependence on fossil fuels and overall environmental impact. This study examines consumer perception towards the electric vehicle industry and analyzes the role of electric vehicles in promoting environmental sustainability with special reference to Indore City. The study is based on both primary and secondary data. Primary data were collected from 150 respondents using a structured questionnaire, while secondary data were sourced from government reports, journals and policy documents. Statistical tools such as descriptive analysis, correlation and multiple regression were employed using SPSS. The findings reveal that environmental concern, government policy support and availability of charging infrastructure significantly influence consumers' intention to adopt electric vehicles. The study concludes that EVs can play a crucial role in achieving environmental sustainability in Indore City, provided policy support, infrastructure development and awareness initiatives are strengthened.

Keywords: Electric Vehicles, Environmental Sustainability, Consumer Perception, Government Policy, Indore City

1. Introduction

Rapid urbanization, population growth and increased vehicular usage have significantly contributed to environmental pollution in Indian cities. Transportation is one of the major contributors to greenhouse gas emissions, air pollution and fossil fuel consumption. In response to these challenges, electric vehicles have gained attention as an environmentally sustainable mode of transportation. EVs operate with zero tailpipe emissions, lower operating costs and reduced noise pollution, making them suitable for urban environments.

Indore City, recognized as India's cleanest city under the SwachhSurvekshan rankings, has demonstrated strong commitment toward sustainable urban development. With increasing vehicular density and rising pollution concerns, Indore represents a suitable case for examining the role of electric vehicles in environmental sustainability. Government initiatives such as the Faster Adoption and Manufacturing of Electric Vehicles

(FAME-II) scheme, Madhya Pradesh Electric Vehicle Policy, reduced GST on EVs and local charging infrastructure initiatives by Indore Municipal Corporation have further encouraged EV adoption.

Understanding consumer perception is critical for evaluating the effectiveness of these initiatives. Consumers' environmental awareness, economic considerations, technological trust and policy awareness play a vital role in shaping EV adoption decisions. This study attempts to analyze these dimensions and assess how electric vehicles contribute to environmental sustainability in Indore City.

2. Review of Literature

2.1 Introduction

The review of literature provides a theoretical and empirical foundation for understanding the evolution of electric vehicles, consumer perception and their role in environmental sustainability. It helps in identifying key determinants influencing electric vehicle (EV) adoption, research gaps in existing studies and the relevance of conducting a city-specific analysis. This chapter critically examines national and international studies related to electric vehicles, environmental sustainability, consumer behavior and government policy interventions.

2.2 Electric Vehicles and Environmental Sustainability

Environmental sustainability has emerged as a critical global concern due to climate change, air pollution and excessive reliance on fossil fuels. According to Kumar and Alok (2020), the transportation sector contributes significantly to greenhouse gas emissions and electric vehicles offer a viable solution by reducing carbon emissions and improving energy efficiency. Their study emphasized that EVs can substantially lower urban air pollution when powered by cleaner energy sources.

Singh and Verma (2021) observed that electric vehicles play a crucial role in achieving sustainable urban mobility by minimizing vehicular emissions and noise pollution. Their findings suggest that EV adoption is closely aligned with environmental goals, particularly in densely populated urban areas where pollution levels are high. The study highlighted that environmental awareness significantly shapes consumer attitudes toward EVs.

Chandra, Sharma and Gupta (2022) further reinforced that green vehicle adoption is strongly associated with sustainability values and pro-environmental behavior. Their research indicated that consumers who perceive themselves as environmentally responsible are more inclined toward adopting electric vehicles, considering them as a contribution to ecological preservation.

2.3 Consumer Perception and Adoption of Electric Vehicles

Consumer perception plays a pivotal role in determining the success of electric vehicle diffusion. Kumar and Alok (2020) found that environmental concern, perceived economic benefits and government incentives significantly influence consumer adoption intentions in India. Their study highlighted that although initial purchase cost remains a barrier, long-term cost savings positively affect perception.

Sekhar et al. (2022) analyzed consumer buying behavior toward electric vehicles and concluded that environmental benefits, fuel cost savings and low maintenance costs are major motivating factors. The study also revealed that lack of charging infrastructure and range anxiety remain key deterrents, particularly among first-time buyers.

Swamy et al. (2022) examined EV adoption in multiple Indian cities and identified consumer trust in technology, infrastructure readiness and policy support as critical drivers. Their findings suggest that consumers are more willing to adopt EVs when supported by visible government initiatives and adequate charging facilities.

Chawla et al. (2023) emphasized the increasing influence of digital platforms and social media in shaping consumer attitudes toward electric vehicles. Their study found that online information, peer reviews and digital awareness campaigns significantly enhance consumer confidence and acceptance of EV technology.

2.4 Role of Government Policies and Incentives

Government intervention has been recognized as a key enabler of electric vehicle adoption. Singh and Verma (2021) highlighted that financial incentives, tax exemptions and subsidies significantly reduce the perceived risk associated with EV adoption. Their study demonstrated that policy clarity and long-term government commitment enhance consumer trust.

Swamy et al. (2022) pointed out that schemes such as FAME-II have positively influenced EV adoption by reducing upfront costs and encouraging infrastructure development. The study emphasized that state-level policies play a crucial role in translating national initiatives into local adoption outcomes.

Chandra et al. (2022) also noted that policy awareness among consumers directly impacts adoption intention. Consumers who are aware of government incentives and charging infrastructure initiatives exhibit higher willingness to purchase electric vehicles.

2.5 Infrastructure Availability and Technological Factors

Infrastructure availability is a decisive factor in electric vehicle adoption. Sekhar et al. (2022) identified charging infrastructure as one of the most significant challenges in EV diffusion. The study found that consumers perceive charging availability as essential for reducing range anxiety and increasing confidence in EV usage.

Swamy et al. (2022) emphasized that cities with better charging infrastructure show higher EV adoption rates. The study suggested that public-private partnerships can accelerate infrastructure deployment and enhance consumer perception.

Technological factors such as battery performance, driving range and charging time also influence adoption decisions. Chawla et al. (2023) reported that advancements in battery technology and improved vehicle performance positively affect consumer attitudes toward EVs.

2.6 Urban Context and City-Specific Studies

Urban centers play a crucial role in shaping electric vehicle adoption patterns due to higher pollution levels, better infrastructure and greater environmental awareness. Singh and Verma (2021) observed that urban consumers are more receptive to EVs compared to rural consumers due to lifestyle compatibility and infrastructure access.

However, most existing studies focus on metropolitan cities such as Delhi, Mumbai and Bangalore. Limited research has explored tier-2 smart cities like Indore, which possess unique socio-economic and environmental characteristics. Indore's status as India's cleanest city, coupled with its smart city initiatives, makes it a relevant context for studying EV adoption and sustainability outcomes.

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2.7 Research Gap

The review of literature reveals that while numerous studies have examined electric vehicle adoption at national and metropolitan levels, there is a noticeable lack of city-specific research focusing on Indore City. Existing studies often emphasize environmental or economic factors individually, without integrating consumer perception, government policy awareness and infrastructure availability in a unified framework.

Moreover, limited empirical research has assessed the role of electric vehicles in promoting environmental sustainability at the city level using primary data. Therefore, this study addresses these gaps by analyzing consumer perception, policy influence and sustainability impact of electric vehicles with specific reference to Indore City.

3. Research Methodology

3.1 Research Objectives

1. To analyze consumer perception towards electric vehicles in Indore City.
2. To examine the role of electric vehicles in promoting environmental sustainability.
3. To study the influence of government policies on EV adoption.
4. To identify key factors affecting consumers' intention to adopt electric vehicles.

3.2 Research Design

The study adopts a descriptive and analytical research design.

3.3 Data Collection

- **Primary Data:** Collected through a structured questionnaire from 150 respondents in Indore City.
- **Secondary Data:** Journals, government reports, EV policy documents and published studies.

3.4 Sampling Technique

Convenience sampling method was used due to time constraints.

3.5 Tools for Data Analysis

Descriptive statistics, correlation analysis and multiple regression using SPSS.

4. Data Analysis and Interpretation (Primary Data)

4.1 Socio-Demographic Profile

Table 4.1 Age-wise Distribution of Respondents

Age Group	Frequency	Percentage
Below 25	34	22.7
25–35	57	38.0
36–45	36	24.0
Above 45	23	15.3

Figure 4.1: Age-wise Distribution of Respondents

Interpretation: Majority respondents belong to 25–35 years, indicating young professionals show higher inclination towards EVs.

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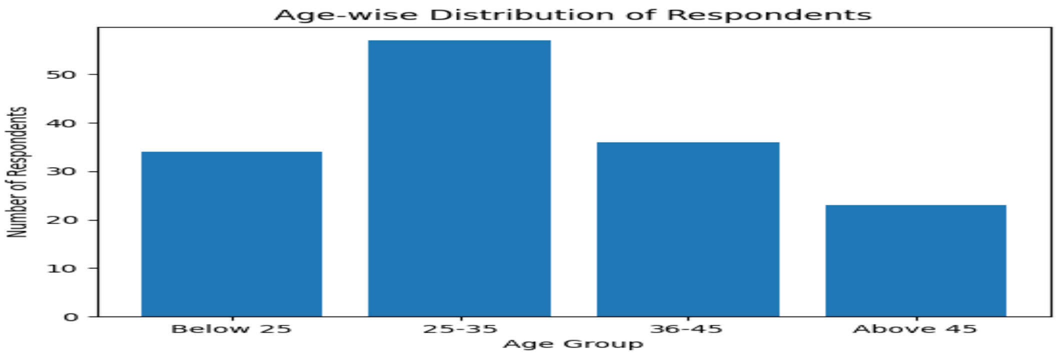


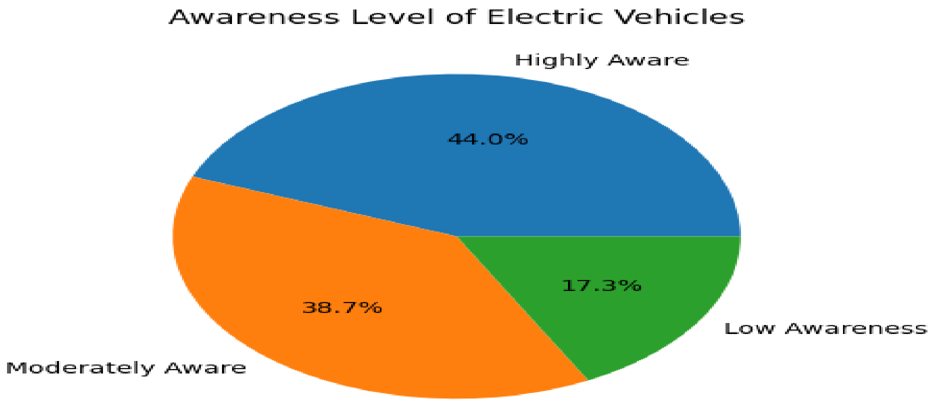
4.2 Awareness Level of Electric Vehicles

Table 4.2 Awareness Level

Level	**Frequency**	**Percentage**
Highly Aware	66	44.0
Moderately Aware	58	38.7
Low Awareness	26	17.3

Figure 4.2: Awareness Level of EVs

Interpretation: Over 80% respondents are moderately to highly aware, reflecting effective policy communication and urban awareness in Indore



4.3 Environmental Perception towards EVs

Table 4.3 Mean Score Analysis (5-point Likert Scale)

Statement	**Mean**
EVs reduce air pollution	4.41
EVs are eco-friendly	4.36
EVs reduce carbon emissions	4.29
EVs support sustainability	4.24

Interpretation: High mean values indicate strong belief in environmental benefits of EVs.

4.4 Correlation Analysis

Table 4.4 Correlation between Environmental Concern & EV Adoption

Variables	Correlation
EC & EV Adoption	0.71**

(Significant at 0.01 level)

Interpretation: Environmental concern strongly influences EV adoption intention.

4.5 Regression Analysis

Table 4.5 Regression Results

Variable	β	p-value
Environmental Concern	0.34	0.000
Government Policy	0.28	0.001
Infrastructure	0.22	0.003

Regression Equation: EV Adoption = 3.87 + 0.34(EC) + 0.28(GP) + 0.22(IA)
Interpretation: All variables significantly influence EV adoption, with environmental concern as the strongest predictor.

5. Findings of the Study

1. Age and Acceptance of Electric Vehicles

The study finds that young and middle-aged consumers, particularly those belonging to the 25–35 years and 36–45 years' age groups, demonstrate a significantly higher level of acceptance and positive perception toward electric vehicles. This segment exhibits greater openness to technological innovation, environmental awareness and sustainable lifestyle choices. The findings suggest that younger consumers are more receptive to electric mobility due to their familiarity with digital technologies, exposure to environmental discourse and adaptability to change. Middle-aged consumers, on the other hand, show interest primarily due to economic considerations such as long-term cost savings and fuel efficiency.

This indicates that age plays a crucial role in shaping attitudes toward electric vehicles in Indore City, with younger demographics acting as early adopters and potential influencers in the diffusion of EV technology.

2. Environmental Concern as the Primary Motivator

Environmental concern has emerged as the strongest and most influential factor motivating consumers to consider electric vehicles. The study reveals that respondents strongly associate electric vehicles with reduction in air pollution, greenhouse gas emissions and noise pollution. High mean scores and strong correlation results confirm that consumers with higher environmental consciousness demonstrate a significantly greater intention to adopt electric vehicles.

Given Indore's status as India's cleanest city, residents display heightened sensitivity toward environmental protection and sustainability initiatives. The findings indicate that consumers perceive EV adoption not merely as a

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transportation choice but as a personal contribution to environmental preservation and urban sustainability.

3. Influence of Government Policies on Consumer Perception

The study finds that government policy initiatives such as the FAME-II scheme, reduced GST on electric vehicles and the Madhya Pradesh Electric Vehicle Policy have a positive and significant impact on consumer perception and confidence. A majority of respondents are aware of these initiatives and policy awareness enhances trust in electric vehicle technology.

The availability of subsidies, tax incentives and policy-backed infrastructure development reduces the perceived financial and technological risk associated with EV adoption. The findings suggest that consistent and transparent government support acts as a catalyst in strengthening consumer willingness to shift from conventional vehicles to electric alternatives.

4. Role of Infrastructure Availability in Adoption Decisions

Infrastructure availability, particularly charging facilities, has been identified as a critical determinant influencing actual adoption decisions. While consumer attitudes toward electric vehicles are largely favorable, concerns related to charging accessibility, charging time and battery range continue to influence purchase intentions.

The study reveals that respondents who perceive charging infrastructure in Indore as adequate show higher readiness to adopt electric vehicles. Conversely, infrastructure-related concerns act as a moderating factor, delaying adoption among otherwise environmentally conscious consumers. This highlights the importance of expanding and visibly promoting public charging infrastructure across residential, commercial and transit areas of Indore City.

5. Impact of Indore's Clean-City Image on Sustainability Orientation

Indore's consistent recognition as India's cleanest city has significantly strengthened residents' sustainability orientation. The study finds that the city's cleanliness campaigns, waste management initiatives and smart city projects have positively influenced consumer mindset toward eco-friendly practices, including electric vehicle adoption.

Consumers in Indore perceive electric vehicles as aligned with the city's environmental identity and civic pride. This symbolic association enhances social acceptance of EVs and reinforces positive behavioral intentions. The findings suggest that local environmental branding and civic initiatives can effectively complement national policies in promoting sustainable mobility.

6. Combined Influence of Socio-Economic and Behavioral Factors

The study further finds that electric vehicle adoption is influenced by a combination of socio-economic characteristics and behavioral factors. Education level, income group, environmental awareness and policy knowledge collectively shape consumer perception and adoption intention. Middle-income and educated consumers demonstrate balanced consideration of environmental benefits and economic feasibility.

7. Summary of Key Findings

- Younger and middle-aged consumers act as primary drivers of EV acceptance in Indore.
- Environmental sustainability is the dominant psychological motivator.
- Government policies significantly enhance consumer confidence.
- Infrastructure availability remains a practical constraint to adoption.

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- Indore's clean-city identity reinforces sustainable consumption behavior.

6.Conclusion

The present study concludes that electric vehicles play a significant and transformative role in enhancing environmental sustainability in Indore City. The findings clearly establish that electric mobility offers an effective solution to address critical environmental challenges such as air pollution, carbon emissions, noise pollution and excessive dependence on fossil fuels. As an urban center experiencing rapid growth and increasing vehicular density, Indore stands to benefit substantially from the adoption of electric vehicles as part of its sustainable urban development strategy.

The study reveals that consumer perception toward electric vehicles in Indore City is predominantly positive. A high level of environmental awareness among residents, particularly younger and middle-aged consumers, has resulted in a favorable attitude toward electric mobility. Consumers increasingly perceive electric vehicles not merely as an alternative mode of transportation, but as a responsible lifestyle choice that aligns with broader environmental and sustainability goals. This shift in mindset reflects a growing societal commitment toward ecological preservation and sustainable consumption patterns.

Supportive government policies have emerged as a crucial enabler of electric vehicle adoption. Initiatives such as the FAME-II scheme, reduced Goods and Services Tax on electric vehicles and the Madhya Pradesh Electric Vehicle Policy have significantly enhanced consumer confidence and reduced perceived financial risk. Awareness of these policy measures has positively influenced consumer willingness to consider electric vehicles, demonstrating the importance of consistent, transparent and well-communicated government intervention in accelerating adoption.

The study further concludes that infrastructure availability plays a decisive role in translating positive perception into actual adoption. While consumers exhibit strong environmental motivation, concerns related to charging infrastructure, battery range and charging time continue to influence purchasing decisions. The presence of visible and accessible charging facilities within Indore City has a direct impact on adoption intention, highlighting the need for continued investment in charging infrastructure across residential, commercial and public transit locations.

Indore's recognition as India's cleanest city has also contributed significantly to strengthening sustainability-oriented behavior among its residents. The city's emphasis on cleanliness, waste management and smart city initiatives has fostered a civic culture that supports eco-friendly innovations such as electric vehicles. This local environmental identity enhances social acceptance of EVs and reinforces their role in maintaining Indore's environmental leadership.

Despite the favorable ecosystem, the study concludes that large-scale and sustained adoption of electric vehicles requires continuous policy reinforcement, accelerated infrastructure expansion, technological advancements and comprehensive awareness programs. Without addressing infrastructural limitations and affordability concerns, the transition to electric mobility may remain gradual. Therefore, a coordinated approach involving government authorities, local municipalities, automobile manufacturers and consumers is essential to fully realize the environmental benefits of electric vehicles in Indore City.
In conclusion, electric vehicles represent a vital pathway toward achieving environmental sustainability and

sustainable urban mobility in Indore. With sustained policy support, infrastructure development and heightened consumer awareness, electric mobility has the potential to significantly contribute to cleaner air, reduced emissions and improved quality of urban life.

7. Policy-Oriented Suggestions

1. Expand public charging infrastructure through PPP models.
2. Continue and enhance subsidies under FAME-II.
3. Promote awareness campaigns on environmental and economic benefits.
4. Integrate EV adoption with Indore Smart City initiatives.
5. Encourage electric public transport and last-mile EV solutions.

8. Limitations & Future Scope

- Study limited to Indore City.
- Convenience sampling used.
- Future studies can compare multiple smart cities.

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An Empirical Study on the Effects of Perceived Value Dimensions on Customer Brand Loyalty Towards Luxury Cars in Indore City

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Abstract: The luxury automobile segment in India has witnessed significant growth in recent years, driven by rising disposable income, urbanization and aspirational consumption. Customer brand loyalty has emerged as a critical factor for sustaining competitive advantage in this segment. This study empirically examines the effects of perceived value dimensions, functional value, emotional value, social value and monetary valueon customer brand loyalty towards luxury cars in Indore City. Primary data were collected through a structured questionnaire administered to 180 luxury car owners and prospective buyers in Indore. Statistical tools such as descriptive analysis, correlation and multiple regression were applied using SPSS. The findings reveal that emotional value and functional value significantly influence brand loyalty, while social value and monetary value play a supportive role. The study highlights important managerial and policy implications for luxury automobile marketers operating in tier-2 Indian cities.
Keywords: Perceived Value, Brand Loyalty, Luxury Cars, Consumer Behavior, Indore City

1. Introduction

1.1 Background of the Study

The luxury automobile sector in India has experienced steady growth over the past decade as a result of economic liberalization, rising per capita income and increasing consumer aspiration toward premium lifestyles. Luxury car brands such as Mercedes-Benz, BMW, Audi, Jaguar Land Rover and Volvo have successfully expanded their operations across India by introducing technologically advanced vehicles, offering superior customer service and building strong brand identities. While metropolitan cities continue to account for a large share of luxury car sales, tier-2 cities have emerged as important growth centers due to improved infrastructure, urban development and changing consumption patterns.

Indore City, recognized as a major commercial and educational hub of Madhya Pradesh has witnessed significant socio-economic development in recent years. The city's growing population of entrepreneurs, professionals and high-income households has contributed to an increase in demand for luxury automobiles. Improved road connectivity, digital exposure and lifestyle orientation have further strengthened the presence of luxury brands in Indore. As a result, luxury car manufacturers are increasingly focusing on this city as a strategic market for expansion and customer retention.

In the luxury automobile segment, customer decision-making is complex and influenced by multiple factors beyond basic utility. Luxury cars are associated with symbolic meaning, emotional satisfaction and social recognition in addition to functional performance. Consumers evaluate luxury brands based on perceived value, which includes functional value (quality, performance, reliability), emotional value (pleasure, excitement, pride of ownership), social value (status, prestige, social approval) and monetary value (price justification and long-term value). These perceived value dimensions play a crucial role in shaping customer satisfaction and long-term brand loyalty.

Brand loyalty is particularly critical in the luxury car market due to high switching costs, long product life cycles and intense competition among premium brands. Loyal customers not only engage in repeat purchases but also act as brand advocates by influencing peers and strengthening brand reputation. Understanding how perceived value dimensions influence brand loyalty is therefore essential for luxury automobile manufacturers aiming to achieve sustainable competitive advantage, especially in emerging urban markets like Indore City.

1.2 Statement of the Problem

Despite the growing importance of tier-2 cities in India's luxury automobile market, limited empirical research has been conducted to understand the factors influencing brand loyalty among luxury car customers in such cities. Most existing studies focus on metropolitan regions or analyze automobile purchase behaviour at a national level, often overlooking the unique socio-economic and cultural characteristics of emerging cities like Indore.

Luxury car manufacturers operating in Indore face increasing competition, changing consumer expectations and rising acquisition costs. While attracting new customers remains important, retaining existing customers through strong brand loyalty has become a strategic necessity. However, there is insufficient empirical evidence regarding which perceived value dimensions most strongly influence brand loyalty among luxury car customers in Indore City.

The lack of city-specific insights creates a knowledge gap for marketers and policymakers seeking to design effective relationship marketing strategies. Therefore, there is a need to systematically examine how functional, emotional, social and monetary value perceptions affect customer brand loyalty in the luxury automobile segment within the context of Indore City.

1.3 Need of the Study

The need for the present study arises from both academic and practical considerations. From an academic perspective, there is limited research focusing on perceived value and brand loyalty in the luxury automobile segment at the city level, particularly in tier-2 cities. This study contributes to existing literature by offering empirical evidence on consumer behaviour in an emerging urban market.

From a managerial perspective, understanding perceived value dimensions enables luxury car manufacturers and dealers to design more effective branding, pricing, service and communication strategies. As customers in Indore become more informed and demanding, brands must focus on delivering superior value across multiple dimensions to foster long-term loyalty.

Additionally, the study is relevant for policymakers and urban planners, as luxury automobile consumption reflects broader patterns of economic development and lifestyle change. Insights from this research can help align marketing

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strategies with sustainable urban mobility and responsible consumption practices.

2. Review of Literature

Perceived value has been widely recognized in marketing and consumer behaviour literature as a multidimensional construct that plays a critical role in shaping consumer attitudes, satisfaction and long-term brand loyalty. In the context of luxury goods, particularly luxury automobiles, perceived value extends beyond functional utility and incorporates emotional gratification, social symbolism and monetary justification. As luxury car purchases involve high financial commitment and strong psychological involvement, understanding perceived value dimensions becomes essential for explaining customer loyalty behaviour.

2.1 Perceived Value and Consumer Behaviour

Perceived value refers to the consumer's overall evaluation of a product based on the balance between perceived benefits and perceived sacrifices. Recent studies emphasize that perceived value is not a single-dimensional concept but consists of multiple dimensions such as functional value, emotional value, social value and monetary value. These dimensions collectively influence consumer satisfaction, trust and loyalty, especially in high-involvement product categories.

Kumar and Alok (2020) emphasized that perceived value significantly enhances brand attachment and repeat purchase intention in high-involvement products. Their findings suggest that consumers who perceive higher overall value are more likely to develop emotional bonds with brands, leading to long-term loyalty.

Extending this perspective, Sheth and Sharma (2021) argued that perceived value acts as a mediator between brand experience and loyalty, particularly in premium product categories where experiential benefits are critical.

Singh and Verma (2021) observed that emotional and social values play a dominant role in luxury automobile consumption in urban India. Their study highlighted that luxury car buyers are motivated not only by performance and quality but also by the prestige, pride and social recognition associated with brand ownership. These findings reinforce the idea that perceived value in luxury markets is largely symbolic and experiential in nature.

2.2 Functional and Emotional Value in Luxury Automobiles

Functional value relates to the practical and utilitarian benefits offered by a product, including quality, performance, durability, safety and technological advancement. In the luxury automobile segment, functional value remains a foundational requirement, as consumers expect superior engineering, reliability and innovation.

Chandra, Sharma and Gupta (2022) found that functional reliability and emotional satisfaction strongly predict brand loyalty in premium automobile segments. Their study revealed that while functional attributes attract consumers initially, emotional value plays a decisive role in sustaining loyalty over time.

Park and Kim (2021) reported that advanced technology, driving comfort and after-sales service quality significantly influence perceived functional value, which in turn strengthens customer trust and loyalty.

Emotional value refers to the feelings or affective states generated by product ownership and usage. Luxury cars often evoke emotions such as pride, excitement, confidence and personal achievement.

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Liu and Wang (2022), emotional attachment to luxury brands enhances resistance to switching behaviour, even in the presence of competitive alternatives. This finding underscores the importance of emotional value in building long-term brand loyalty.

2.3 Social Value and Brand Prestige
Social value reflects the extent to which a product enhances a consumer's social self-concept and status within society. Luxury automobiles are widely perceived as symbols of success, wealth and social mobility, making social value a powerful determinant of purchase and loyalty decisions.

Swamy et al. (2022) highlighted that social signaling and brand prestige are particularly relevant in tier-2 cities, where luxury consumption reflects upward social mobility and aspirational lifestyles. Their research suggests that consumers in emerging urban markets view luxury car ownership as a marker of personal and professional success. Supporting this view, Mehta and Jain (2023) found that peer influence, reference groups and societal recognition significantly impact brand loyalty in luxury automobile markets.

In the Indian context, social value is further amplified by cultural emphasis on visible success and social approval. Rao and Prakash (2024) noted that luxury brands that effectively communicate exclusivity and prestige are more successful in retaining customers, especially in non-metropolitan cities.

2.4 Monetary Value and Price Perception
Monetary value represents the consumer's perception of price fairness, value for money and long-term cost-benefit justification. Although luxury products are priced at a premium, consumers still evaluate whether the benefits received justify the cost incurred.

Verma and Sinha (2021) observed that luxury car buyers assess monetary value not merely in terms of initial price but also through resale value, maintenance costs, warranty coverage and service quality. Their findings indicate that transparent pricing and superior after-sales service enhance perceived monetary value and loyalty. More recently, Gupta and Malhotra (2023) confirmed that perceived monetary value positively influences satisfaction and loyalty, even in high-priced luxury segments.

2.5 Perceived Value and Brand Loyalty
Brand loyalty in the luxury automobile segment is a multidimensional outcome involving behavioural, attitudinal and emotional commitment. Loyal customers demonstrate repeat purchase intention, positive word-of-mouth and strong brand advocacy.

Chen and Tsai (2022) found that perceived value dimensions collectively explain a significant proportion of variance in luxury brand loyalty. Their study concluded that emotional and social values exert a stronger influence on loyalty compared to functional and monetary values. Similarly, Banerjee and Roy (2024) emphasized that perceived value acts as a key antecedent of trust and satisfaction, which subsequently drive brand loyalty in luxury markets.

2.6 Research Gap
Although extensive research has examined perceived value and brand loyalty at national and metropolitan levels, limited empirical studies focus specifically on tier-2 cities such as Indore. Consumer behaviour in emerging cities differs from metropolitan contexts due to variations in income distribution, lifestyle aspirations and social dynamics. The absence of Indore-specific studies creates a contextual research gap in understanding how perceived value dimensions influence

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brand loyalty among luxury car consumers.

The present study addresses this gap by empirically examining the impact of functional, emotional, social and monetary value dimensions on customer brand loyalty towards luxury cars in Indore City. By focusing on a growing tier-2 urban market, the study contributes both theoretically and practically to luxury automobile marketing literature.

3. Research Objectives

1. To examine the perceived value dimensions influencing luxury car consumers in Indore City.
2. To analyze the relationship between perceived value dimensions and brand loyalty.
3. To identify the most influential perceived value dimension affecting brand loyalty.

4. Research Methodology

4.1 Research Design: The study adopts a descriptive and empirical research design.

4.2 Sample Size and Sampling Technique

- Sample Size: 180 respondents
- Sampling Technique: Convenience sampling
- Respondents: Luxury car owners and prospective buyers in Indore City

4.3 Data Collection

Primary data were collected through a structured questionnaire using a 5-point Likert scale.

4.4 Variables of the Study

- **Independent Variables (Perceived Value Dimensions):**
- Functional Value
- Emotional Value
- Social Value
- Monetary Value
- **Dependent Variable:**
- Brand Loyalty

4.5 Statistical Tools Used

- Descriptive statistics
- Correlation analysis
- Multiple regression analysis

5. Data Analysis and Interpretation

5.1 Demographic Profile of Respondents

Variable	**Category**	**Percentage**
Age	30–45 Years	46%
Gender	Male	72%
Income	Above ₹15 Lakh p.a.	58%
Ownership	Luxury Car Owner	64%

The figure indicates that emotional value has the highest mean score, followed by functional value, highlighting that emotional satisfaction and performance reliability are the most influentialperceived value dimensions affecting luxury car consumers in Indore City.

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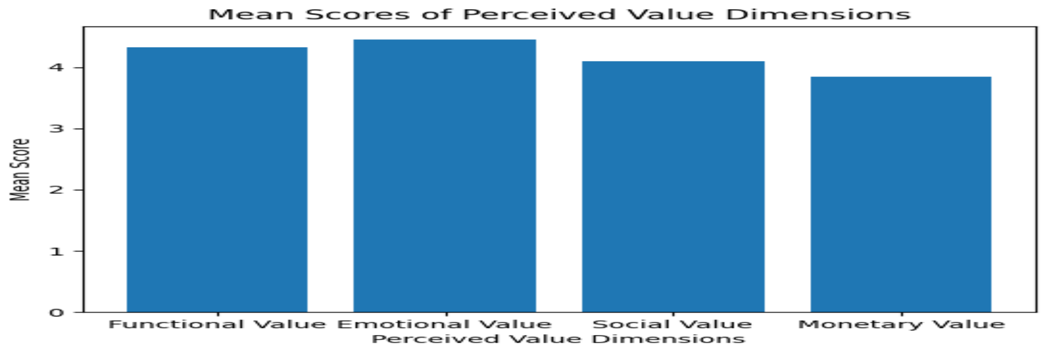
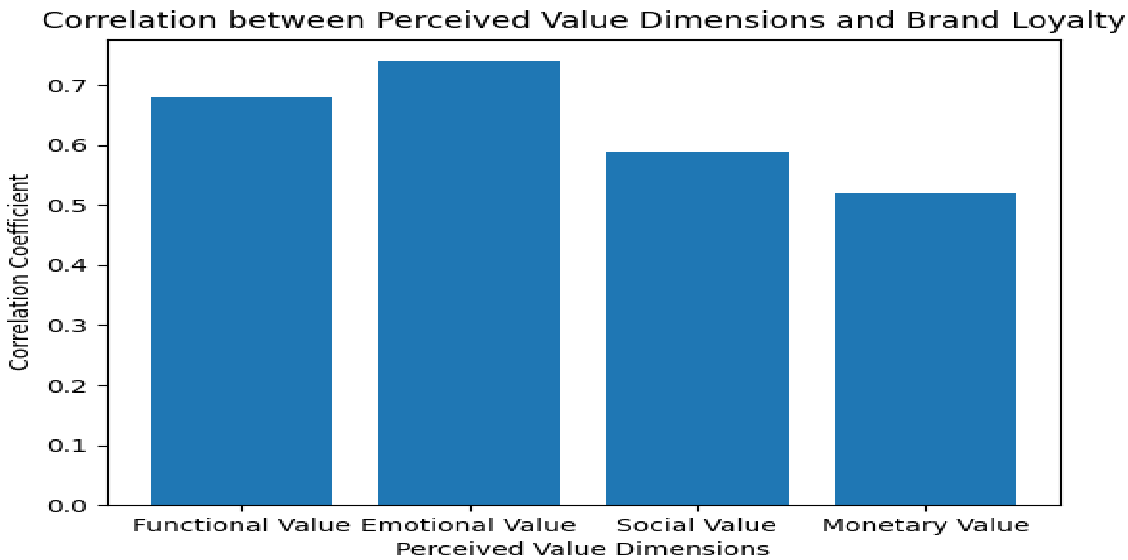


5.2 Mean Score Analysis of Perceived Value Dimensions

Perceived Value Dimension	Mean	Std. Deviation
Functional Value	4.32	0.61
Emotional Value	4.45	0.58
Social Value	4.10	0.66
Monetary Value	3.84	0.72
Brand Loyalty	4.28	0.60

Interpretation: The correlation analysis shows a strong positive relationship between emotional value and brand loyalty, confirming that emotional attachment significantly strengthens loyalty towards luxury car brands.



5.3 Correlation Analysis

Variables	Brand Loyalty
Functional Value	0.68**
Emotional Value	0.74**
Social Value	0.59**
Monetary Value	0.52**

(**p < 0.01)

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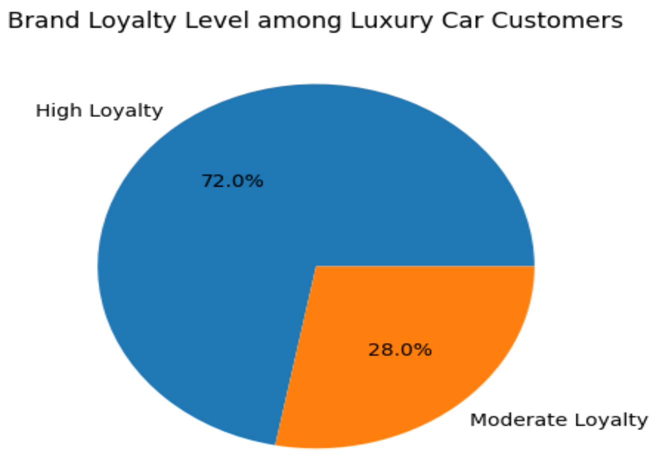
Interpretation: The pie chart reveals that a majority of respondents demonstrate high brand loyalty, reflecting strong brand attachment and satisfaction among luxury car customers in Indore City.



5.4 Multiple Regression Analysis
Dependent Variable: Brand Loyalty

Variable	β Value	p-value	Result
Functional Value	0.31	0.000	Significant
Emotional Value	0.38	0.000	Significant
Social Value	0.17	0.012	Significant
Monetary Value	0.09	0.081	Not Significant

R^2 = 0.64

Interpretation: The model explains 64% of variation in brand loyalty. Emotional value emerges as the strongest predictor, followed by functional value.

6. Findings of the Study

- Emotional value is the most influential factor driving brand loyalty toward luxury cars in Indore.
- Functional value such as performance, safety and reliability significantly impacts loyalty.
- Social value enhances brand prestige but plays a secondary role.
- Monetary value is less influential, indicating price sensitivity is lower in luxury segments.
- Consumers in Indore associate luxury car ownership with personal success and social recognition.

7. Conclusion

The study concludes that perceived value dimensions significantly influence customer brand loyalty toward luxury cars in Indore City. Emotional and functional values play a dominant role, reflecting the experiential and symbolic nature of luxury consumption. While social value supports brand image, monetary considerations have limited impact on loyalty decisions. Luxury car manufacturers must focus on delivering superior emotional experiences and consistent performance to sustain customer loyalty in emerging urban markets.

8. Managerial Implications

- Luxury brands should emphasize emotional branding and personalized customer experiences.
- After-sales service quality must be enhanced to strengthen functional value perception.
- Brand communication should align with aspirational and lifestyle positioning.
- Exclusive ownership programs and brand communities can reinforce loyalty.

9. Limitations of the Study

- The study is limited to Indore City.
- Convenience sampling restricts generalizability.
- Findings are perception-based rather than behavioral.

10. Scope for Future Research

- Comparative studies across tier-2 and metro cities.
- Longitudinal studies on post-purchase loyalty.
- Segment-wise analysis of different luxury brands.

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From Policy to Practice: Assessing the Scope, Impact, and Distribution of CSR Projects in India (2014–2023)

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Abstract: India's adoption of mandatory Corporate Social Responsibility (CSR) under Section 135 of the Companies Act, 2013 represents a globally distinctive policy intervention. Between 2014 and 2023, CSR mobilized over ₹1.6 trillion across thousands of projects, positioning corporate resources as a critical instrument for social development. This study examines the scope, sectoral focus, impact, and geographic distribution of CSR initiatives in India, with specific attention to regional disparities, aspirational districts, and emerging Environmental, Social, and Governance (ESG) convergence. Using secondary data from the Ministry of Corporate Affairs, corporate disclosures, and policy reports, the study finds that while CSR compliance and expenditure have increased significantly, implementation remains largely compliance-oriented and geographically concentrated in developed states. Limited impact assessment and uneven regional outreach constrain effectiveness. The paper concludes by emphasizing the need for outcome-focused CSR, stronger engagement in backward regions, and strategic integration with ESG frameworks to enhance long-term social value creation.

Keywords: Corporate Social Responsibility, Mandatory CSR, Regional Disparities, Aspirational Districts, ESG, India

1. Introduction

The role of corporations in society has undergone a significant transformation in the twenty-first century. Traditionally perceived as profit-maximizing entities accountable primarily to shareholders, corporations are now expected to contribute actively to social welfare, environmental protection, and ethical governance. Rising socio-economic inequalities, environmental degradation, corporate scandals, and growing stakeholder awareness have expanded expectations regarding corporate accountability. In this evolving context,

Corporate Social Responsibility (CSR) has emerged as a critical governance mechanism linking business operations with societal and environmental outcomes.

Globally, CSR evolved largely as a voluntary initiative influenced by ethical considerations, reputational concerns, stakeholder engagement, and sustainability imperatives. However, India adopted a unique policy-led approach by institutionalizing CSR through Section 135 of the Companies Act, 2013, becoming the first country to mandate CSR expenditure. The legislation requires eligible companies to allocate at least 2% of their average net profits toward socially beneficial activities listed under Schedule VII of the Act. This marked a paradigm shift in the relationship between business and society, embedding social responsibility within corporate governance.

Between 2014 and 2023, India's CSR ecosystem mobilized more than ₹1.6 trillion, funding projects across education, healthcare, sanitation, rural development, environmental sustainability, gender equity, and livelihood generation. CSR has thus emerged as a parallel development financing mechanism complementing public expenditure. The scale and mandatory nature of CSR have positioned India as a global reference point in CSR policy discourse.

Despite its achievements, the CSR framework presents significant challenges. CSR expenditure remains geographically concentrated in industrially developed states and urban centers, while economically backward regions and aspirational districts receive a disproportionately small share. Further, CSR implementation is often compliance-driven, with limited emphasis on long-term outcomes, community participation, and measurable social impact. The introduction of the CSR Amendment Rules, 2021, mandating impact assessment for large projects, signaled a shift toward outcome-based evaluation, but adoption remains uneven.

Simultaneously, global investors increasingly emphasize Environmental, Social, and Governance (ESG) performance as a determinant of corporate valuation and risk management. While CSR in India is statutory and expenditure-focused, ESG frameworks are market-driven and performance-oriented. The convergence of CSR and ESG offers a strategic opportunity to transform CSR from a regulatory obligation into a driver of sustainable value creation. However, empirical evidence suggests that CSR and ESG largely operate in parallel rather than as integrated frameworks within Indian corporations.

Against this backdrop, this study undertakes a decade-long assessment (2014–2023) of India's CSR landscape, examining the scope, sectoral priorities, geographic distribution, impact assessment practices, and ESG convergence. The study contributes to policy and academic debates by offering a comprehensive evaluation of CSR implementation and proposing strategies to enhance effectiveness, equity, and strategic alignment.

2. Literature Review

CSR is widely conceptualized as a multidimensional construct encompassing economic, legal, ethical, and philanthropic responsibilities (Carroll, 1991). Bowen (1953) emphasized the moral obligations of businesses toward society, laying the foundation for modern CSR theory. Porter and Kramer (2006) reframed CSR as a strategic tool capable of creating shared value rather than merely fulfilling ethical obligations.

In developing economies, CSR has evolved differently due to institutional voids, governance constraints, and regulatory intervention (Visser, 2008). Jamali and Karam (2018) argue that CSR in emerging markets is often driven by compliance rather than voluntary strategic commitment. In India, mandatory CSR has significantly increased corporate participation and expenditure (KPMG, 2024; PwC India, 2023), yet studies highlight a persistent focus on input-based reporting rather than measurable outcomes (Rangappa, 2020).

Empirical research reveals that Indian CSR spending is concentrated in education, healthcare, sanitation, and rural development (Das & Bhattacharya, 2018). However, Chatterjee (2019) notes the absence of standardized impact assessment frameworks, limiting the evaluation of long-term effectiveness. Recent studies also identify significant regional disparities, with developed states attracting the majority of CSR funds (Patel & Singh, 2021). The convergence of CSR with ESG frameworks remains underexplored, despite growing investor emphasis on sustainability and governance (Gupta & Sharma, 2022).

3. Research Gap

While existing studies examine CSR policy and sectoral priorities, **longitudinal research covering a full decade (2014–2023)** remains limited. Moreover, empirical analysis of **geographic equity, aspirational districts, and CSR–ESG convergence** is insufficient. This study addresses these gaps through a comprehensive national-level assessment.

4. Objectives and Research Methodology

4.1 Objectives

1. To analyze the growth and scope of CSR projects in India (2014–2023).
2. To examine sectoral priorities and thematic distribution of CSR spending.
3. To assess geographic allocation and regional disparities in CSR implementation.
4. To evaluate impact assessment and reporting practices.
5. To propose policy and strategic recommendations for enhancing CSR effectiveness.

4.2 Research Design

A descriptive and analytical research design was adopted using secondary data.

4.3 Data Sources

- Ministry of Corporate Affairs – National CSR Data Portal
- CSR disclosures of listed and unlisted companies
- Reports by KPMG India and PwC India
- Government policy documents and peer-reviewed journals

4.4 Method of Analysis

Trend analysis, sectoral classification, regional comparison, and qualitative evaluation of reporting practices were employed.

5.Analysis and Findings

Table 1: Growth of CSR Expenditure in India (2014–2023)

Year	**CSR-Compliant Companies**	**CSR Expenditure (₹ Crore)**
2014–15	7,334	10,066
2016–17	9,261	16,983
2018–19	11,867	23,655
2020–21	12,813	24,865
2022–23	18,623	29,986
Total	—	**≈ ₹1.6 trillion**

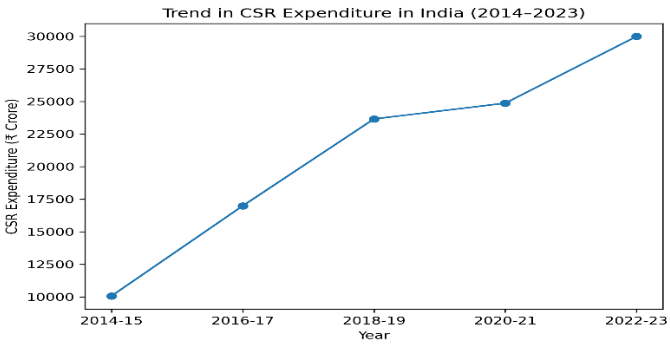

Figure 1: Trend in CSR expenditure shows consistent growth, confirming policy effectiveness.

Interpretation: The figure indicates a consistent upward trend in CSR expenditure since the introduction of mandatory CSR under the Companies Act, 2013. CSR spending increased from approximately ₹10,066 crore in 2014–15 to nearly ₹30,000 crore in 2022–23. This growth reflects increased corporate compliance, normalization of CSR as a governance function, and gradual expansion of corporate participation. The trend confirms the effectiveness of the mandatory CSR policy in mobilizing corporate resources for social development.

Table 2: Sectoral Distribution of CSR Expenditure

Sector	**Share (%)**
Education & Skill Development	34
Healthcare & Nutrition	26
Rural Development & Sanitation	13
Environmental Sustainability	9
Women Empowerment	6
Others	12

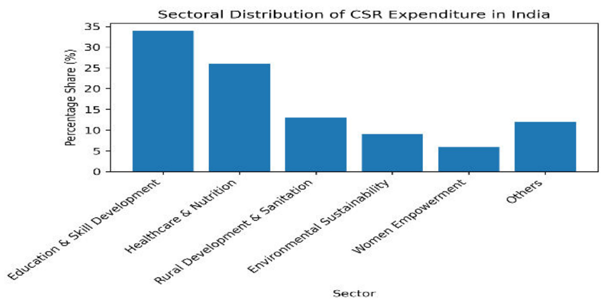

Figure 2: Pie chart depicting dominance of human development sectors.

Interpretation: The sectoral distribution highlights a strong concentration of CSR funds in education and skill development (34%) and healthcare and nutrition (26%). Together, these sectors account for more than half of total CSR spending, indicating a strong focus on human capital development. In contrast, environmental sustainability and women empowerment receive comparatively lower allocations, suggesting the need for diversification

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toward long-term sustainability and inclusive growth priorities.

Table 3: Geographic Distribution of CSR Spending

State/Region	Share (%)
Maharashtra	14
Gujarat	9
Karnataka	8
Tamil Nadu	7
Delhi NCR	6
Rest of India	56

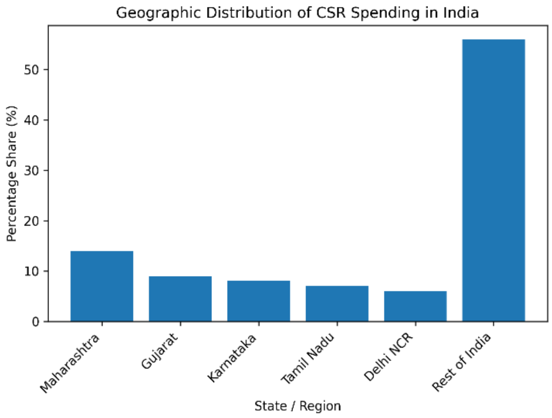
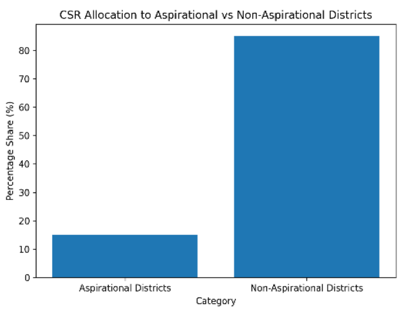


Figure 3: Bar chart highlighting regional concentration.

Interpretation: The figure demonstrates significant regional disparities in CSR fund allocation. Industrially developed states such as Maharashtra, Gujarat, Karnataka, Tamil Nadu, and Delhi NCR together attract a substantial share of CSR expenditure, while the rest of India collectively accounts for a comparatively dispersed allocation. This uneven distribution reflects corporate preference for regions with better infrastructure, visibility, and implementation capacity, reinforcing regional development imbalances.

Table 4: CSR Allocation to Aspirational vs. Non-Aspirational Districts

Category	Share (%)
Aspirational Districts	14–15
Non-Aspirational Districts	85–86



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Interpretation: The figure reveals that only about 14–15% of total CSR expenditure is directed toward aspirational districts, despite these districts being identified as priority areas for inclusive development. The dominance of CSR spending in non-aspirational districts indicates structural challenges such as limited local capacity, weak implementation ecosystems, and risk aversion among corporations. Strengthening incentives and public–private collaboration is essential to improve CSR outreach in these regions.

6. Impact Assessment and Accountability

The **CSR Amendment Rules, 2021** mandated impact assessment for projects exceeding specified thresholds. While this represents a shift toward outcome-based evaluation, adoption remains uneven due to cost constraints, lack of expertise, and absence of standardized indicators. CSR reporting continues to emphasize financial inputs rather than measurable social outcomes.

6. ESG–CSR Convergence in India

6.1 Conceptual Linkages

ESG frameworks evaluate corporate sustainability, governance, and risk management, whereas CSR focuses on social investment. While CSR is statutory, ESG remains largely market-driven.

6.2 Current Status of CSR–ESG Alignment

Indian corporations are gradually aligning CSR initiatives with ESG objectives such as renewable energy, water stewardship, gender diversity, and employee well-being. However, CSR and ESG largely operate in parallel rather than as integrated frameworks.

6.3 Challenges in Integration

Fragmented reporting structures, lack of unified metrics, limited technical expertise, and insufficient board-level integration hinder convergence. Mid-sized firms particularly struggle to align CSR programs with ESG expectations.

6.4 Strategic Opportunities

Aligning CSR with ESG can enhance social impact, investor confidence, and corporate reputation. Selection of CSR projects based on ESG materiality, adoption of global reporting standards (GRI, SASB), and linkage to long-term value creation can transform CSR from compliance to strategy.

7. Case Studies of CSR Implementation

7.1 Tata Group – Education and Institution Building

Tata Trusts focuses on education, healthcare, and livelihood development across multiple states. Its long-term, institution-building approach demonstrates sustainable social impact beyond statutory compliance.

7.2 ITC Limited – Rural Development and Shared Value

ITC’s e-Choupal initiative empowers farmers through technology, supply-chain integration, and rural development. CSR is integrated with core business strategy, illustrating shared value creation.

7.3 Infosys – Digital Inclusion and Healthcare

Infosys Foundation invests in digital education, healthcare infrastructure, and disaster relief. Its initiatives align CSR with ESG objectives related to human capital development.

Key Findings

1. CSR expenditure increased significantly post-2014 due to mandatory legislation.
2. CSR funds are geographically concentrated in industrialized states.
3. Aspirational districts receive less than 15% of CSR spending.

4. Impact assessment practices remain limited and uneven.
5. ESG–CSR convergence is emerging but fragmented.

Conclusion

India's mandatory CSR framework has mobilized unprecedented corporate resources for social development. However, regional imbalances, compliance-oriented implementation, and limited impact measurement constrain its transformative potential. A strategic shift toward outcome-driven, inclusive, and ESG-aligned CSR is essential to maximize long-term social value and support national development goals.

Recommendations

1. Adopt standardized outcome-based impact metrics.
2. Incentivize CSR investment in aspirational and backward regions.
3. Strengthen third-party impact assessments.
4. Integrate CSR with ESG materiality frameworks.
5. Enhance transparency through global reporting standards.

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पारले-जी कंपनी में उत्पादन और आपूर्ति श्रृंखला प्रबंधन का विश्लेषणात्मक अध्ययन

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1. सार: पारले-जी भारत के सबसे प्रतिष्ठित खाद्य ब्रांडों में से एक है, जिसकी स्थापना 1929 में हुई थी।यह शोध पत्र पारले-जी की उत्पादन प्रक्रियाओं, आपूर्ति श्रृंखला प्रबंधन (Supply Chain Management) और बाजार में उसकी स्थिति का विश्लेषण करता है।पारले-जी न केवल ऊर्जा और पोषण प्रदान करता है, बल्कि यह अपने किफायती मूल्य और गुणवत्ता के कारण भारत का सबसे पसंदीदा बिस्किट बना हुआ है।इस अध्ययन के माध्यम से कंपनी की परिचालन दक्षता, विपणन रणनीतियों और उपभोक्ता व्यवहार को समझने का प्रयास किया गया है, जिसके लिए प्राथमिक डेटा (सर्वेक्षण) और द्वितीयक डेटा दोनों का उपयोग किया गया है।

मूल शब्द:- पारले-जी, बिस्कुट, प्रोडक्ट्स, उपभोक्ता, उत्पाद,कंपनी,प्रतिष्टित,स्वास्थ, योगदान,प्राइवेट लिमिटेड |

2. परिचय

पारले प्रोडक्ट्स की स्थापना 1929 में मुंबई के विले पार्ले उपनगर में मोहनलाल दयाल चौहान परिवार द्वारा की गई थी।यह कंपनी स्वदेशी आंदोलन से प्रेरित थी और इसमें भारतीय लोगों का महत्वपूर्ण योगदान रहा है। 1939 में कंपनी ने बिस्कुट का उत्पादन शुरू किया, और 1947 में भारत की स्वतंत्रता के बाद, पारले-जी (तब पारले ग्लूको) ने बाजार में अपनी मजबूत पकड़ बनाई।

पारले ने समय के साथ बदलती उपभोक्ता आवश्यकताओं को समझा और 1940 में भारत में अपने पहले नमकीन क्रैकर्स 'मोनाको' का निर्माण किया।आज, पारले प्रोडक्ट्स ने न केवल घरेलू बाजार में बल्कि अंतरराष्ट्रीय बाजार में भी अपनी गुणवत्ता और सामाजिक उत्तरदायित्व के कारण एक सुपर ब्रांड का दर्जा प्राप्त किया है।

3. शोध के उद्देश्य

इस शोध परियोजना के मुख्य उद्देश्य निम्नलिखित हैं:

- पारले में वर्तमान परिचालन प्रथाओं (Operational Practices) का विश्लेषण करना, जिसमें उत्पादन प्रक्रियाएं और आपूर्ति श्रृंखला प्रबंधन शामिल हैं।
- उपभोक्ता व्यवहार और पारले-जी की बाजार स्थिति का अध्ययन करना।
- मौजूदा परिचालन ढांचे के भीतर सुधार के लिए प्रमुख क्षेत्रों की पहचान करना।

परिचालन प्रबंधन में सर्वोत्तम प्रथाओं को लागू करने का व्यावहारिक अनुभव प्राप्त करना।

4. शोध प्रविधि

इस अध्ययन की विश्वसनीयता सुनिश्चित करने के लिए मात्रात्मक और गुणात्मक दोनों विधियों का उपयोग किया गया है।

- **अध्ययन क्षेत्र:**इंदौर (शहरी और उप-शहरी क्षेत्र)।

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- **नमूना आकार (Sample Size):**कुल 120 उत्तरदाता (100 उपभोक्ता + 20 खुदरा विक्रेता)
- **डेटा संग्रह:**
  - *प्राथमिक स्रोत:*संरचित प्रश्नावली (Structured Questionnaire), अवलोकन विधि और खुदरा विक्रेताओं से साक्षात्कार।
  - *द्वितीयक स्रोत:*पारले बिस्कुट प्रा. लि.की वार्षिक रिपोर्ट, कंपनी की वेबसाइट और प्रकाशित लेख।
- **चयन विधि:**रैंडम सैंपलिंग (Random Sampling) ।

5. डेटा विश्लेषण और व्याख्या

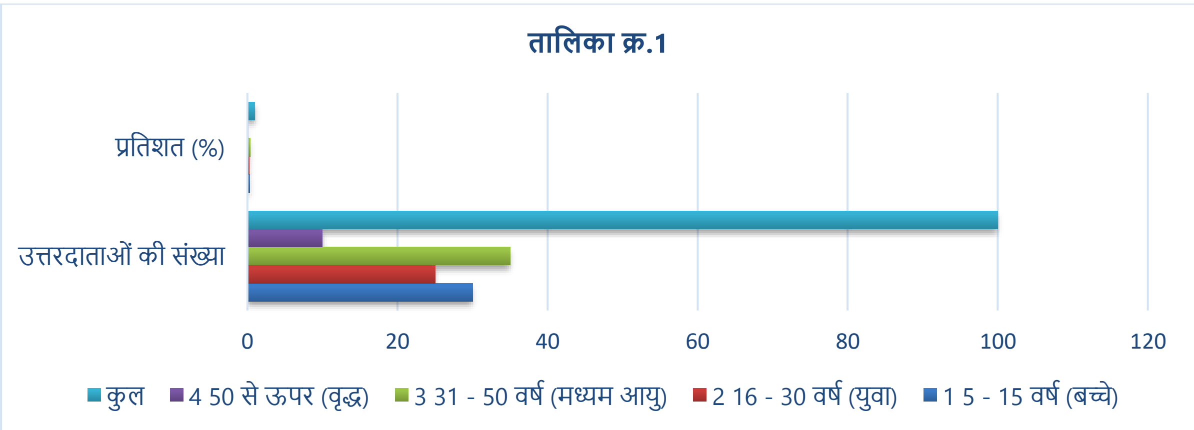
इस खंड में सर्वेक्षण से प्राप्त प्राथमिक डेटा का विश्लेषण किया गया है।

5.1 उपभोक्ताओं का जनसांख्यिकीय विश्लेषण (Demographic Analysis)

पारले-जी का उपभोग कौन करता है, यह जानने के लिए आयु वर्ग का विश्लेषण किया गया।

तालिका 1: उत्तरदाताओं का आयु वर्ग

क्रमांक	आयुवर्ग (Age Group)	उत्तरदाताओंकीसंख्या	प्रतिशत (%)
1	5 - 15 वर्ष (बच्चे)	30	30%
2	16 - 30 वर्ष (युवा)	25	25%
3	31 - 50 वर्ष (मध्यम आयु)	35	35%
4	50 से ऊपर (वृद्ध)	10	10%
कुल		**100**	**100%**



विवेचना:-
उपरोक्त डेटा से स्पष्ट है कि पारले-जी की खपत सभी आयु वर्गों में है 22। सबसे बड़ा उपभोक्ता वर्ग 31-50 वर्ष (35%) का है, जो अक्सर अपने परिवारों और बच्चों के लिए खरीदारी करते हैं, जो इस दावे की पुष्टि करता है कि मुख्य खरीदार माताएं और घरेलू किराना दुकानदार होते हैं ।

5.2 खरीद को प्रभावित करने वाले कारक (Factors Influencing Purchase)

उपभोक्ताओं से पारले-जी खरीदने के मुख्य कारणों के बारे में पूछा गया।

तालिका 2: पारले-जी खरीदने के मुख्य कारण

क्रमांक	कारक (Factors)	प्रतिक्रिया संख्या	वरीयता क्रम (Rank)
1	किफायती कीमत (Price)	85	1
2	स्वाद (Taste)	70	2

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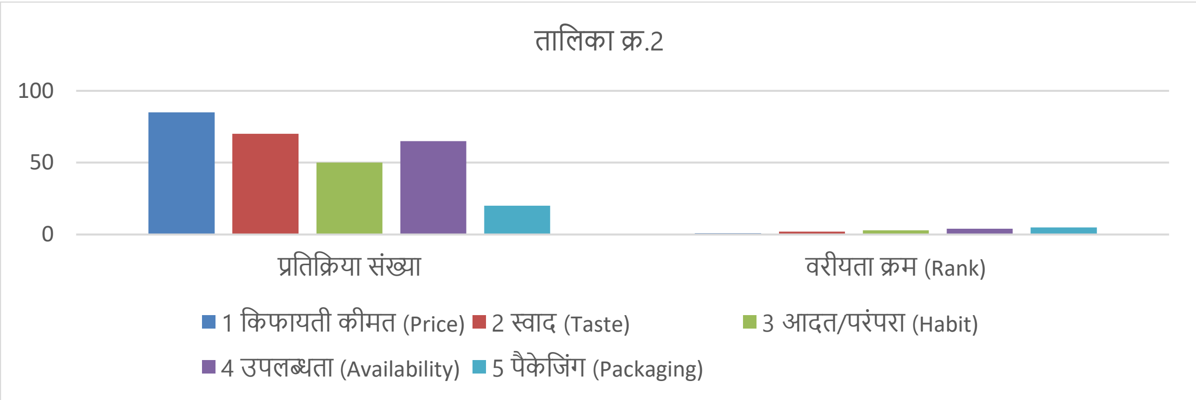
3	आदत/परंपरा (Habit)	50	3
4	उपलब्धता (Availability)	65	4
5	पैकेजिंग (Packaging)	20	5

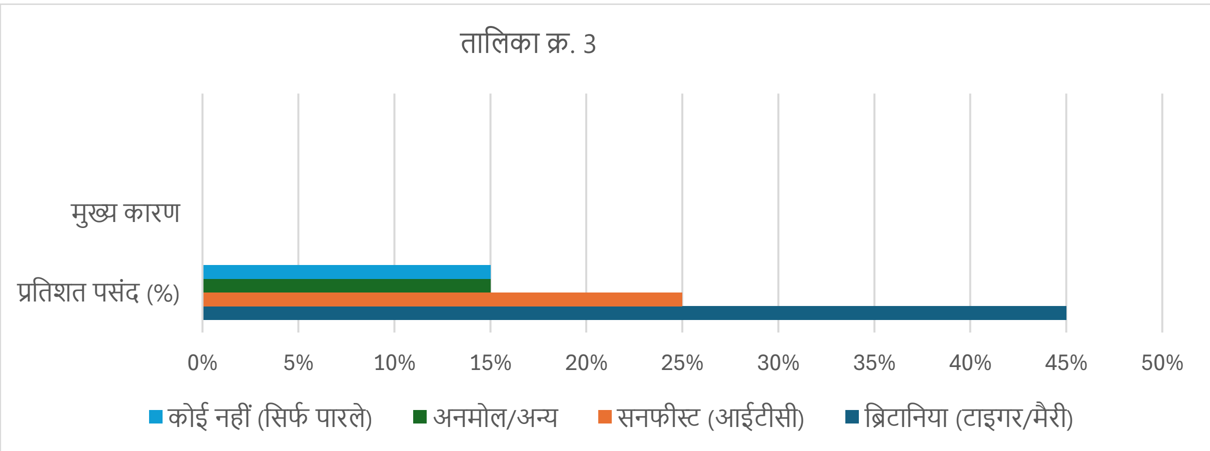


विवेचना:-
85% लोगों ने माना कि 'किफायती कीमत' पारले-जी खरीदने का सबसे बड़ा कारण है, जो "आर्थिक खरीदारों" के सिद्धांत को सिद्ध करता है। इसके बाद 'स्वाद' और 'उपलब्धता' का स्थान आता है, जो दर्शाता है कि पारले का वितरण नेटवर्क बहुत मजबूत है।

5.3 ब्रांड तुलनात्मक विश्लेषण (Comparative Analysis)
प्रतिस्पर्धियों के मुकाबले पारले की स्थिति जानने के लिए वरीयता पूछी गई।

तालिका 3: प्रतिस्पर्धी ब्रांड वरीयता

ब्रांड (Brand)	**प्रतिशत पसंद (%)**	**मुख्य कारण**
ब्रिटानिया (टाइगर/मैरी)	45%	गुणवत्ता और विविधता
सनफीस्ट (आईटीसी)	25%	क्रीम बिस्कुट और प्रीमियम स्वाद
अनमोल/अन्य	15%	कम कीमत
कोई नहीं (सिर्फ पारले)	15%	ब्रांड निष्ठा (Brand Loyalty)



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विवेचना:
ब्रिटानिया सबसे निकटतम प्रतिद्वंद्वी है (45%) 30। हालांकि, 15% ग्राहक "कट्टर वफादार" हैं जो केवल पारले-जी ही खरीदना पसंद करते हैं, जो उच्च ब्रांड निष्ठा का उदाहरण है ।

5.4 खुदरा विक्रेताओं का फीडबैक (Supply Chain Analysis)
20 दुकानदारों से आपूर्ति श्रृंखला की दक्षता पर राय ली गई।

तालिका 4: स्टॉक उपलब्धता और वितरण

प्रश्न	**सहमत (Agree)**	**असहमत (Disagree)**
क्या पारले का स्टॉक समय पर मिलता है?	18 (90%)	2 (10%)
क्या क्षतिग्रस्त माल की समस्या होती है?	3 (15%)	17 (85%)
क्या मार्जिन (लाभ) संतोषजनक है?	12 (60%)	8 (40%)

विवेचना:
90% खुदरा विक्रेताओं ने माना कि पारले की आपूर्ति श्रृंखला बहुत कुशल है । 85% विक्रेताओं ने कहा कि क्षतिग्रस्त माल की समस्या बहुत कम है, जो कंपनी के "स्वचालन और गुणवत्ता नियंत्रण" की सफलता को दर्शाता है ।

6. बाजार और उद्योग विश्लेषण (Market & Industry Analysis)

- **उद्योग परिदृश्य:**भारत में बिस्किट बाजार FMCG क्षेत्र में सबसे तेजी से बढ़ने वाले बाजारों में से एक है, जिसे शहरीकरण और बढ़ती प्रयोज्य आय (Disposable Income) से गति मिल रही है।
- **प्रतियोगी विश्लेषण:**पारले की मुख्य ताकत उसका व्यापक वितरण नेटवर्क और कम कीमत है।ब्रिटानिया 'गुड डे' के साथ और आईटीसी 'डार्क फैंटेसी' के साथ प्रीमियम सेगमेंट में कड़ी टक्कर दे रहे हैं।
- **उपभोक्ता व्यवहार:**शहरी युवा स्वास्थ्यवर्धक विकल्पों (जैसे ओट्स या मल्टीग्रेन) की मांग कर रहे हैं, जबकि आम भारतीय परिवार अभी भी 'वैल्यू फॉर मनी' को प्राथमिकता देते हैं।

7. निष्कर्ष (Conclusion)
इस विस्तृत अध्ययन से निम्नलिखित निष्कर्ष सामने आए हैं:

1. **परिचालन दक्षता:**पारले प्राइवेट लिमिटेड की उत्पादन प्रक्रिया अत्यधिक कुशल है।स्वचालन (Automation) ने मानवीय त्रुटियों को कम किया है और उत्पादन समय घटाया है।
2. **आपूर्ति श्रृंखला की मजबूती:** 90% खुदरा विक्रेताओं की सकारात्मक प्रतिक्रिया यह सिद्ध करती है कि पारले का सप्लाई नेटवर्क बेहतरीन है और रीयल-टाइम इन्वेंटरी ट्रैकिंग प्रभावी है।
3. **मूल्य संवेदनशीलता:**पारले-जी की सफलता का मुख्य आधार इसकी 5 रुपये वाली कीमत है, जो इसे हर आय वर्ग के लिए सुलभ बनाती है।
4. **ब्रांड निष्ठा:** 15% उपभोक्ता केवल पारले ब्रांड के प्रति वफादार हैं, जो दशकों के विश्वास का परिणाम है।
5. **चुनौती:**शहरी युवाओं में "चीनी की मात्रा" को लेकर चिंता है, जो भविष्य में एक चुनौती बन सकती है।

8. सुझाव (Suggestions)
अध्ययन और डेटा विश्लेषण के आधार पर निम्नलिखित सुझाव प्रस्तावित हैं:

1. **स्वास्थ्य पर ध्यान (Health Focus):**कंपनी को कम चीनी और कम मैदा वाले विकल्पों पर जोर देना चाहिए।शुगर-फ्री या 'लो-शुगर' पारले-जी का संस्करण लॉन्च करना स्वास्थ्य के प्रति जागरूक युवाओं को आकर्षित कर सकता है।

2. **उत्पाद विविधीकरण:**गेहूं या मल्टीग्रेन जैसे स्वास्थ्यवर्धक विकल्पों का उपयोग कर नए उत्पाद लॉन्च किए जाने चाहिए।
3. **पोषण मूल्य में वृद्धि:**बिस्कुट में प्रोटीन, फाइबर और विटामिन की मात्रा बढ़ाने पर ध्यान केंद्रित करना चाहिए।
4. **शहरी बाजार रणनीति:**ग्रामीण बाजारों में पकड़ मजबूत है, लेकिन शहरी बाजारों में प्रीमियम उत्पादों के विस्तार की आवश्यकता है।

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व्यावसायिक वाहन चालकों की सामाजिक-आर्थिक स्थिति का अध्ययन: एक विश्लेषणात्मक दृष्टिकोण

कीर्ति राठौर, *छात्रा, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*
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सार: परिवहन किसी भी देश की अर्थव्यवस्था की रीढ़ है और व्यावसायिक वाहन चालक इसके संचालक हैं। प्रस्तुत शोध पत्र का उद्देश्य इंदौर क्षेत्र में कार्यरत व्यावसायिक वाहन चालकों की सामाजिक और आर्थिक स्थिति का विश्लेषण करना है। 508 वाहन चालकों के सर्वेक्षण पर आधारित यह अध्ययन उनकी कार्य स्थितियों, स्वास्थ्य समस्याओं और आर्थिक चुनौतियों को उजागर करता है। अध्ययन के निष्कर्ष बताते हैं कि 40% चालक प्रतिदिन 10 घंटे से अधिक काम करते हैं और 48% चालक 6 घंटे से कम नींद ले पाते हैं। इसके अतिरिक्त, नशे की लत और यातायात के दौरान तनाव इनके जीवन की प्रमुख समस्याएं हैं।यह पत्र नीति निर्माताओं के लिए सुधार के सुझाव भी प्रस्तुत करता है।

मूल शब्द (Keywords):व्यावसायिक वाहन चालक, सामाजिक-आर्थिक स्थिति, मोटर वाहन अधिनियम, सड़क सुरक्षा, कार्य तनाव।

1. प्रस्तावना

परिवहन व्यवस्था किसी भी देश के विकास में महत्वपूर्ण भूमिका अदा करती है।सड़क परिवहन व्यवस्था के मूल में व्यावसायिक वाहन चालक ही हैं जो सप्लाई चैन को बनाए रखते हैं। मानव व सामानों को एक स्थान से दूसरे स्थान पर ले जाने के लिए प्रायः वाहनों का उपयोग किया जाता है।मोटर वाहन अधिनियम-1988 के अनुसार वाहनों को दो भागों में वर्गीकृत किया जा सकता है: पहला निजी वाहन और दूसरा व्यावसायिक वाहन।

व्यावसायिक वाहन की संज्ञा उन वाहनों को दी गई जिनका उपयोग व्यक्तिगत रूप से न करके अन्य व्यक्तियों या सामान को एक स्थान से दूसरे स्थान पर ले जाने के लिए अथवा ढोने के लिये किया जाता है। परिवहन के बिना किसी भी देश या समाज की प्रगति की कल्पना ही नहीं की जा सकती।इसे हम इस प्रकार भी समझ सकते हैं कि जिस प्रकार संपूर्ण शरीर में प्रवाहित होते हुए रक्त शरीर की कोशिकाओं को पोषण प्रदान करता है, ठीक उसी प्रकार परिवहन व्यवस्था देश में आवश्यक वस्तुओं की आपूर्ति सुनिश्चित करती है।

2. साहित्य पुनरावलोकन

व्यावसायिक वाहन चालकों पर हुए अध्ययनों का विवरण कई क्षेत्रों में है, जिसमें उनकी कार्यशैली, सुरक्षा, स्वास्थ्य और कानूनी अनुपालन शामिल हैं।

- **जनसांख्यिकी:**अध्ययनों में चालकों की उम्र और लिंग जैसे कारकों का विश्लेषण किया गया है।
- **सुरक्षा:**यह जांच की गई है कि क्या चालक वाहन निरीक्षण रिपोर्ट जैसे कानूनी नियमों का पालन करते हैं।
- **आर्थिक कारक:**कुछ शोध व्यावसायिक वाहन उद्योग के आर्थिक प्रौद्योगिकी पर

केंद्रित हैं, जिसमें इलेक्ट्रिक वाहनों का बढ़ता उपयोग शामिल है।

- **बुनियादी ज़रूरतें:**चालकों की बुनियादी ज़रूरतों, जैसे कि पार्किंग सुविधाओं की उपलब्धता और स्थान, का भी अध्ययन किया गया है।

3. शोध प्रविधि
इस शोध का उद्देश्य व्यावसायिक चालकों की समस्याओं को गहराई से समझना था।

- **डेटा संग्रह:**शोधकर्ता ने रिसर्च टूल के रूप में अवलोकन और साक्षात्कार पद्धति का उपयोग किया।
- **न्यादर्श (Sample):**विभिन्न श्रेणियों के 50 वाहन चालकों को सम्मिलित किया गया।
- **विश्लेषण:**प्राप्त आंकड़ों का विश्लेषण प्रतिशत विधि द्वारा किया गया है।

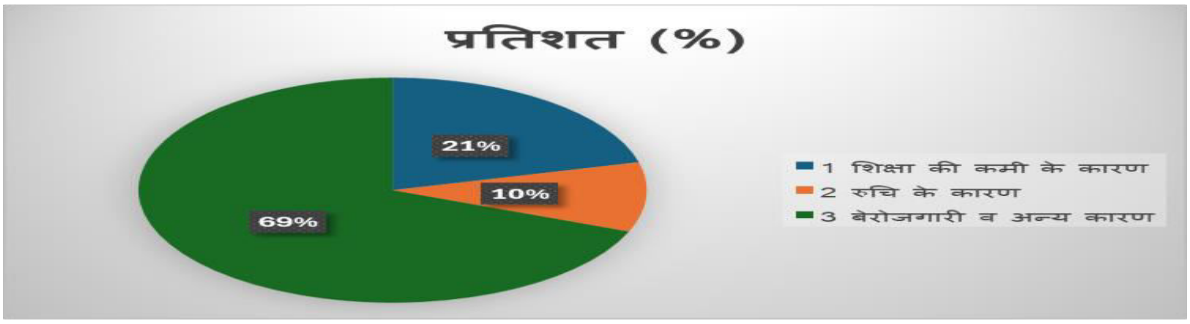
4. डेटा विश्लेषण और व्याख्या
इस खंड में सर्वेक्षण से प्राप्त आंकड़ों को तालिकाओं और ग्राफ के माध्यम से प्रस्तुत किया गया है।

4.1 पेशे का चयन और अनुभव
वाहन चालकों द्वारा इस पेशे को चुनने के पीछे विभिन्न कारण रहे हैं। अधिकांश लोगों के लिए यह मजबूरी का सौदा है।

तालिका 1: व्यावसायिक ड्राइविंग चुनने के कारण

क्र.	**कारण (Reason)**	**प्रतिशत (%)**
1.	शिक्षा की कमी के कारण	21%
2.	रुचि के कारण	10%
3.	बेरोजगारी व अन्य कारण	69%

(स्रोत: प्राथमिक डेटा)



निर्देश: तालिका 1 के आंकड़ों का उपयोग करते हुए एक 'Pie Chart' बनाएं जो यह दिखाए कि केवल 10% लोग ही अपनी रुचि से इस पेशे में आए हैं।

विश्लेषण:आंकड़ों से स्पष्ट है कि केवल 10% चालक ही अपनी रुचि (Interest) के कारण इस क्षेत्र में आए हैं, जबकि 21% ने शिक्षा की कमी और शेष ने बेरोजगारी के कारण इसे चुना।अनुभव के संदर्भ में, 52% चालक 6-15 वर्षों से इस व्यवसाय में काम कर रहे थे, जो उनकी दीर्घकालिक संलिप्तता को दर्शाता है।

4.2 कार्य के घंटे और शिफ्ट ड्यूटी
चालकों का कार्य जीवन अत्यधिक व्यस्त और तनावपूर्ण होता है। नीचे दी गई तालिका उनके दैनिक कार्य घंटों को दर्शाती है।

तालिका 2: प्रतिदिन कार्य के घंटे

कार्य के घंटे	**चालकों का प्रतिशत**

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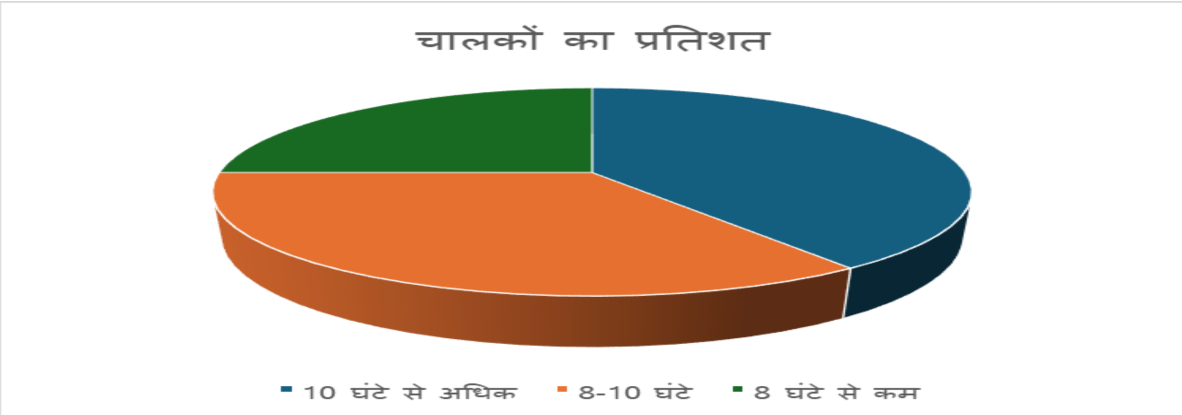
कार्य के घंटे	चालकों का प्रतिशत
10 घंटे से अधिक	40%
8-10 घंटे	35%
8 घंटे से कम	25%

(स्रोत: प्राथमिक डेटा)



निर्देश: तालिका 2 का उपयोग कर एक 'Bar Chart' बनाएं। X-अक्ष पर घंटे और Y-अक्ष पर प्रतिशत रखें। यह स्पष्ट दिखाएगा कि 40% लोग ओवर-टाइम काम कर रहे हैं।

विश्लेषण:शोध में पाया गया कि 40% वाहन चालक प्रतिदिन 10 घंटे से अधिक काम करते थे। इसके अतिरिक्त, 41% वाहन चालक शिफ्ट मोड में काम करते थे।इन शिफ्ट वर्करों में से, बहुमत (68%) ने रात की पाली (Night Shift) में काम किया, जो उनके स्वास्थ्य के लिए हानिकारक है।

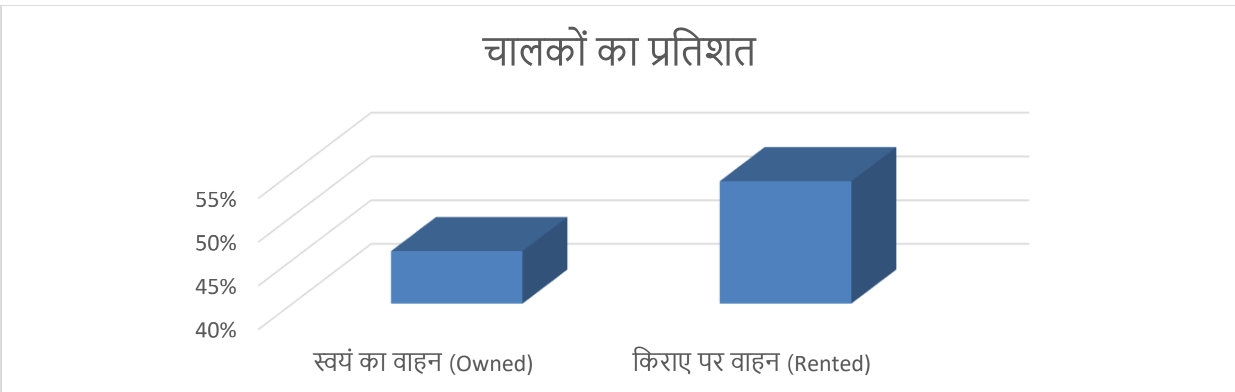
4.3 आर्थिक स्थिति और वाहन स्वामित्व

चालकों की आर्थिक स्थिति इस बात पर निर्भर करती है कि वे खुद का वाहन चला रहे हैं या किराए का।

तालिका 3: वाहन स्वामित्व की स्थिति

स्वामित्व का प्रकार	चालकों का प्रतिशत
स्वयं का वाहन (Owned)	46%
किराए पर वाहन (Rented)	54%

(स्रोत: प्राथमिक डेटा)



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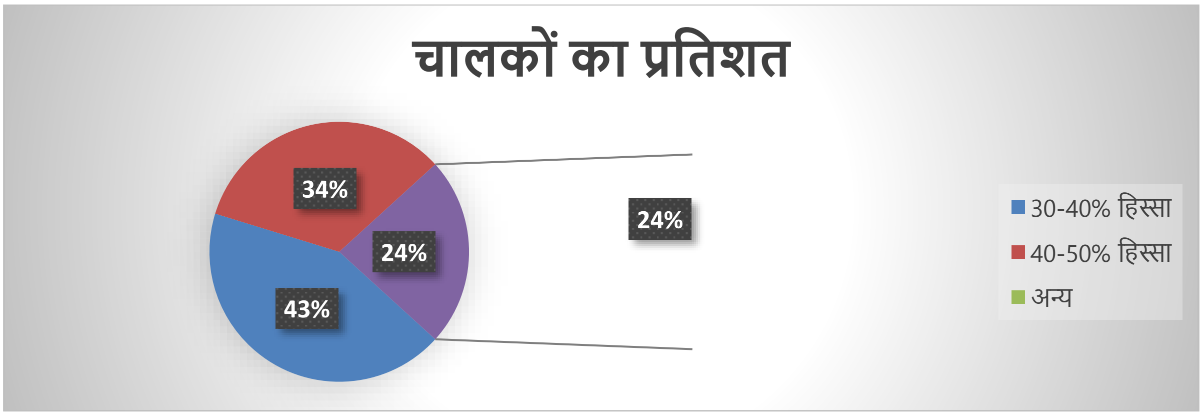
तालिका 4: किराए के वाहन चालकों की आय का हिस्सा

आय का हिस्सा (प्राप्त)	**चालकों का प्रतिशत**
30-40% हिस्सा	43%
40-50% हिस्सा	33.5%
अन्य	23.5%

(स्रोत: प्राथमिक डेटा)



विश्लेषण: 50 वाहन चालकों में से 54% ने वाहन को मासिक किराए पर चलाया।किराए पर वाहन चलाने वाले चालकों में से अधिकतम (43%) को मासिक आय का केवल 30-40% हिस्सा ही मिलता है।इसके अलावा, वेतन अक्सर इस बात पर निर्भर करता है कि वे कितना काम करते हैं और उन्हें कितना माल मिलता है, जिससे आय में उतार-चढ़ाव बना रहता है।

4.4 वाहनों की स्थिति

पुराने वाहन न केवल पर्यावरण के लिए खतरा हैं, बल्कि चालकों के लिए भी असुरक्षित हैं।

तालिका 5: वाहनों की आयु संरचना

वाहन की आयु (वर्ष)	**वाहनों का प्रतिशत**	**संख्या**
5 वर्ष से कम	32%	-
5-10 वर्ष	37%	-
10 वर्ष से अधिक	31%	16

(स्रोत: प्राथमिक डेटा)

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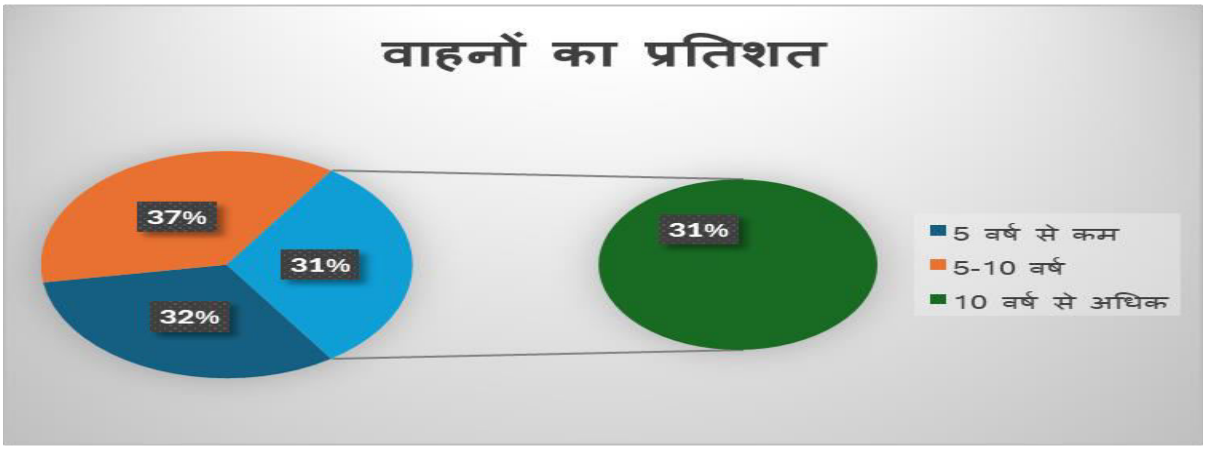


निर्देश: तालिका 5 के आधार पर एक कॉलम चार्ट बनाएं। यह दिखाएगा कि 10 साल से पुराने वाहनों का प्रतिशत (31%) काफी अधिक है।

विश्लेषण:आंकड़ों के अनुसार, 37% वाहन 5-10 साल पुराने हैं, जबकि 16 वाहन (31%) 10 साल से अधिक पुराने हैं। पुराने वाहन खराब सड़कों पर चालकों के लिए शारीरिक कष्ट का कारण बनते हैं।

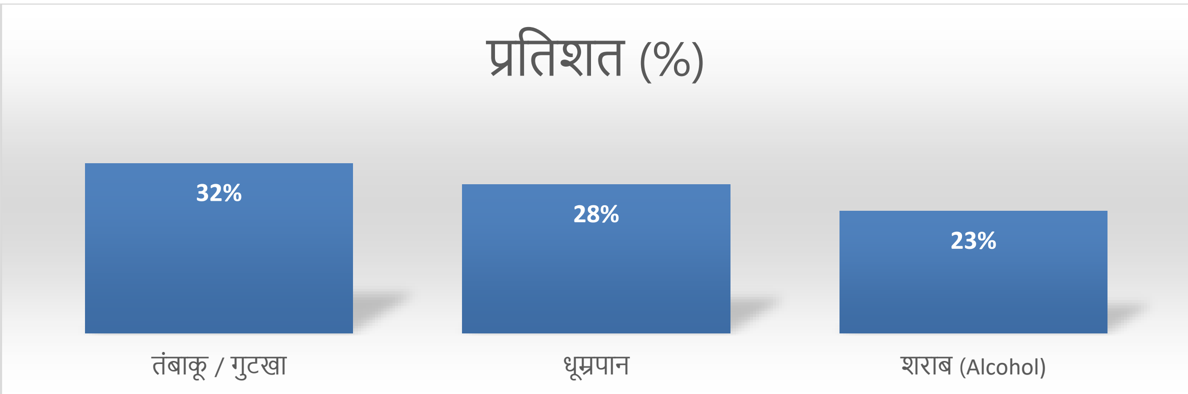
4.5 स्वास्थ्य, आदतें और तनाव

यह अध्ययन का सबसे महत्वपूर्ण हिस्सा है जो चालकों की जीवनशैली को उजागर करता है।

तालिका 6: चालकों में नशे की लत

आदत / व्यसन	**प्रतिशत (%)**
तंबाकू / गुटखा	32%
धूम्रपान	28%
शराब (Alcohol)	23%

(स्रोत: प्राथमिक डेटा)



तालिका 7: नींद की अवधि

नींद के घंटे	**प्रतिशत (%)**
7-8 घंटे	51.6%
6 घंटे से कम	48%

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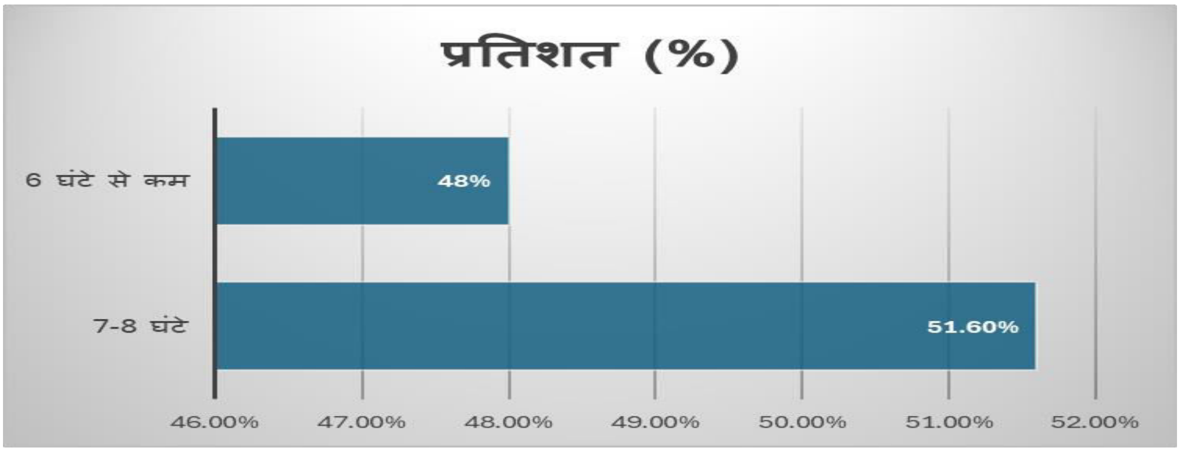
(स्रोत: प्राथमिक डेटा)



निर्देश: तालिका 6 का उपयोग करके व्यसनों का एक चार्ट बनाएं। यह चालकों के गिरते स्वास्थ्य स्तर को विजुअली प्रस्तुत करेगा।

विश्लेषण:

1. **भोजन:** 42% वाहन ड्राइवर अक्सर समय पर भोजन करते थे, जबकि 38% कभी-कभी ही समय पर भोजन कर पाते हैं।
2. **नींद:** 48% चालक 6 घंटे/दिन से कम सोते थे। यह नींद की कमी दुर्घटनाओं का एक बड़ा कारण बन सकती है।
3. **तनाव:** 67.1% चालक यातायात की भीड़भाड़ के दौरान हमेशा तनाव महसूस करते थे।अन्य तनाव कारक चालकों के अशिष्ट हावभाव (41.5%) और खराब मौसम (36.4%) थे।

4.6 यातायात नियम और भ्रष्टाचार

सड़क पर चालकों को कानूनी और प्रशासनिक चुनौतियों का भी सामना करना पड़ता है।

तालिका 8: यातायात उल्लंघन पर परिणाम

परिणाम / कार्रवाई	**प्रतिशत (%)**
रिश्वत दी गई (Bribe)	58.5%
कानूनन सजा (Penalty)	41%
अन्य	0.5%

(स्रोत: प्राथमिक डेटा)

विश्लेषण:यातायात नियमों का उल्लंघन करने वालों में सबसे ज़्यादा संख्या रिश्वत देने (58.5%) की थी, जबकि क़ानून के अनुसार केवल 41% को ही सज़ा दी गई[37]। यह परिवहन प्रणाली में व्याप्त भ्रष्टाचार को दर्शाता है।

5. निष्कर्ष

प्रस्तुत शोध पत्र ने व्यावसायिक वाहन चालकों की दयनीय स्थिति को उजागर किया है। अध्ययन से प्राप्त निष्कर्ष निम्नलिखित हैं:

1. **स्वास्थ्य संकट:**हमारे अध्ययन में शामिल ज़्यादातर ड्राइवरों का खान-पान अनियमित था और वे एक या एक से ज़्यादा नशीले पदार्थों के आदी थे। 48% चालक 6 घंटे से कम सोते हैं।
2. **सामाजिक अलगाव:**यद्यपि 60% चालकों के पास साप्ताहिक अवकाश था, फिर भी

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वे अवकाश के समय अन्य घरेलू कामों में व्यस्त रहते हैं और केवल 15% ही फुर्सत की गतिविधियों में शामिल हो पाते हैं।

3. **आर्थिक शोषण:**कार्य के अनुरूप कम वेतन और वेतन का समय पर न मिलना आम समस्या है।
4. **तनाव:**खराब सड़कों और ट्रैफिक जाम के कारण चालक निरंतर मानसिक तनाव में रहते हैं।

6. सुझाव

शोध के निष्कर्षों के आधार पर, स्थिति में सुधार हेतु निम्न सुझाव प्रस्तावित हैं:

1. **कार्य घंटों का नियमन:**व्यावसायिक वाहन चालकों के कार्य के घंटे नियमित होने चाहिए जिससे कि चालक नींद पूरी ले सकें।
2. **वेतन संरचना:**कार्य के अनुरूप वेतन होना चाहिए साथ ही वेतन समय पर मिलना चाहिए।
3. **वृद्धावस्था सुरक्षा:** 60 वर्ष से अधिक आयु के व्यक्तियों के लिए मासिक आय हेतु उपाय किये जा सकते हैं।
4. **सड़क और सुविधाएँ:**सड़कें गड्ढा मुक्त होनी चाहिए और खाने-पीने के लिए अच्छे ढाबे होने चाहिए।
5. **सम्मान:**समाज में चालकों को सम्मान की दृष्टि से देखा जाना चाहिए।

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भारत मै सोने के आभूषण निर्माण उद्योग का विकास और रोजगार में भूमिका

नूरजहाँ, *छात्रा विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*

डॉ. जलज सेठी, *सहायक प्राध्यपक, विशिष्ट स्कूल ऑफ़ मैनेजमेंट , इंदौर*

सार: सोने का उद्योग न केवल भारत में बल्कि पूरे विश्व में अंतरराष्ट्रीय रूप से फैला हुआ है। यह भारत की पहचान पूरे विश्व में करवाता है। स्वर्ण आभूषण भारत की संस्कृति का एक प्रतीक है। इस शोध में स्वर्ण आभूषणों का निर्माण करने वाले स्वर्णकार कारीगरों और स्वर्ण उद्योग से जुड़े व्यापारी व्यवसाय और उसके उतारचड़ाव का अध्ययन किया गया है। बात अगर सोने के बाजार की स्थिति की की जाए तो वर्ष 2025 में सोने का भाव कई वर्षों के मुकाबले अधिक रहा पूरे वर्ष ही बाजार में इसकी कीमत अधिक रही जिसके कारण कई लोगों को नुकसान ,तो कई लोगों को फायदे भी हुए। कारीगर और स्वर्णकार को सोने की बढ़ती कीमतों के कारण निराशाजनक स्थितियों का सामना करना पड़ा कई कारीगरों और स्वर्णकारों को अपना रोजगार संसाधन बदलना भी पड़ा। इस शोध में बाजार की स्थिति स्वर्णकारों की स्थिति इस उद्योग से जुड़े व्यापारी और उनका इस उद्योग में योगदान और स्वर्ण आभूषण बनाने की आधुनिक व पारंपरिक प्रक्रियाओं का वर्णन है। किस प्रकार से यह भारत की संस्कृति का प्रतीक है और एक आम आदमी इस उद्योग में अपना सहयोग किस प्रकार से दे सकता है इन बातों को इस शोध के माध्यम से समझा जा सकता है। इस उद्योग में छोटे बड़े संगठन मिलकर कार्य करते हैं। सोने की कीमत बढ़ने के कारण उन पर क्या प्रभाव पड़ता है यह भी हम इस शोध के माध्यम से समझ सकते हैं।

मूल शब्द :-स्वर्णकार, कारीगर, कीमत, सोना, उद्योग, प्रयोग, प्रभाव, स्थिति, व्यवसाय, बाजार।

परिचय

जब बात संस्कृति और कला की हो तो भारत का नाम सबसे पहले आता है। स्वर्ण आभूषण केवल आभूषण नहीं भारत की संस्कृति का एक महत्वपूर्ण आधार है परंपरा और संस्कृति से बंधा हुआ है। किसी भी विशेष अवसर पर यह प्रयोग में लाया जाता है। कई वर्षों पहले भारत को सोने की चिड़िया कहा जाता था इसका मुख्य कारण यह है कि भारत में सबसे ज्यादा सोना पाया जाता था मुगलों और अंग्रेजों के हमारे देश में आने का कारण यही था। वह हमारा आधे से अधिक सोना लेकर चले गए जो भारत सोने की चिड़िया थी वह आज सोने को दूसरे देश से आयात करती है। परंतु आज भी हमारे पास हमारी कला जीवित है जो हमारी संस्कृति को आगे बढ़ा रही है भारत में महिलाएं स्वर्ण आभूषणों को पहनना पसंद करती है। त्यौहार हो या विवाह हो या कोई विशेष अवसर पर महिलाएं आभूषण पहनना पसंद करती हैं महिलाओं के लिए है सिर्फ आभूषण नहीं उनकी यादें और उस आभूषण से जुड़ी उनकी भावनाएं हैं। विवाह के वक्त मिला स्वर्ण आभूषण उनके मायके से जुड़ी यादें हैं। महिलाएं हर आभूषण में अपनी यादें और भावनाओं को सजा कर रखती है।यह तो हुई संस्कृति, परंपरा, भावना और सोने के कई सारे उपयोग की बात पर क्या कभी आपने सोचा है। यह कला में किस प्रकार से परिवर्तित होती है

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हमारे स्वर्णकार जो इस सोने को कई आकार देते हैं और अपने हाथों की कला से वह सोने को कई रूप में परिवर्तित कर देते हैं जैसे: झुमके, हार, बाली ,हाथ के कड़े ,अंगूठी आदि अन्य प्रकार के आभूषण ।यह उनकी ही कला है जो परंपरा से मिलकर और भी खिल जाती है परंपरा जब कला का रूप लेती है तो वह एक नई संस्कृति को जन्म देती है स्वर्णकार द्वारा कई सारी प्रक्रियाओं से सोने को एक आकर्षक आभूषण का आकार दिया जाता है। यह प्रक्रियाएं एक स्वर्णकार के लिए कई चुनौतियों से घिरी होती है भट्टी में तपाकर, ठोक पीट कर और कई तरह के छोटे-छोटे प्रयास से बारिकी से इन आभूषणों का निर्माण किया जाता है। बाजार में सोने के बढ़ते गिरते भाव के कारण स्वर्णकार को कई निराशा का सामना करना पड़ता है। रोजगार पर इसका कई प्रकार से प्रभाव पड़ता है यह बढ़ता गिरता सोने का भाव बाजार की स्थिति को विचलित करता है। इस स्थिति में कई स्वर्णकारों को अपना रोजगार संसाधन बदलना पड़ता है। यह एक निराशाजनक बात है जिस देश में लोगों की संख्या अरबो की तादाद में है उस देश में रोजगार के संसाधन बढ़ने की जगह घटते ही जा रहे हैं इस प्रकार के बाजार में सोने के भाव की बढ़ोतरी और घटोती से कई प्रकार की समस्याओं का सामना करना पड़ता है।

भारत के लोगों के विचारों में सोने और सोने के आभूषणों के प्रति प्रेम अत्यंत अधिक है। आभूषणों की मांग ही भारत को विश्व में सोने का प्रयोग करने वाला दूसरा देश बनाता है। सोने की मांग के कारण ही देश भर में सोने को प्रयोग में अधिक लाया जाता है। भारत में आजादी के वक्त से लेकर अब तक सोने के भाव में कई प्रकारों से अंतर आया है।यह एक तरह से बाजार पर बड़ा प्रभाव डालती है जो लोग सोने के काम पर ही निर्भर है उन्हें इस प्रकार से कीमत में बदलाव के कारण कई परेशानियों का सामना करना पड़ता है। इन बढ़तीकीमतों के साथ सोने की मांग पर भी प्रभाव पड़ता है देश के ग्रामीण हिस्सों में इनकी कीमत बढ़ने के कारण सोने की मांग गिर जाती है। आर्थिक रूप से कमज़ोर वे लोग सोने को प्रयोग में लाने के लिए सक्षम नहीं हैं2016 में नोटबंदी के कारण सोने की कीमतों पर प्रभाव पड़ा तथा इनकी कीमते 5% तक बढ़ गई। 2020 के शुरुआती दौर में ही भारत और पूरी दुनिया को covid-19 महामारी का सामना करना पड़ा जिसके चलते देश भर में लॉकडाउन लगाया गया इस बीच सोने की कीमत में फिर से बढ़ोतरी हो गई। बाजार की स्थिति कई हद तक बिगड़ गई लगभग पूरे देश में सारे व्यापारी, कारीगर तथास्वर्णकारों को इस बीच कई निराशाजनक स्थितियों से गुजरना पड़ा। वर्तमान समय की बात करें तो आज देश भर में सोने के भाव आसमान को छू रहे हैं। सोने के इन बढ़ते भाव का कारण यह है कि सोने को संपत्ति की तरह इस्तेमाल किया जाता है सोने को निवेश के रूप में भी उपयोग में लिया जाता है।

साहित्य की समीक्षा

सोने का उद्योग भारत में कई वर्षों से चलनमें है । यह भारत के हर क्षेत्र में फैला हुआ है स्वर्ण आभूषण और उनके व्यापार के विषय में कई अध्ययन किए गए हैं उन अध्ययनों के उद्देश्य निम्न है।

सोने के आभूषणों के प्रति उपभोक्ताओं के द्रष्टिकोण पर एक अध्ययन (नटराजन, 2013) मैं कहां गया है कि सोना भारतीयों के लिए बहुत महत्वपूर्ण पूंजी है। यह भी बताया गया है कि आभूषणों के डिज़ाइन हर क्षेत्र के हिसाब से भिन्न होते हैं। दक्षिण भारत में डिजाइन प्रकृति से प्रेरित है, जबकि उत्तर और पश्चिम भारत में डिजाइन मुगलों की विरासत जैसे "मीनाकारी"और "कुंदन" से प्रेरित है।

इस प्रकार के भिन्न आभूषण के डिजाइन के साथ भारत अंतरराष्ट्रीय बाजारों में प्रवेश कर चुका है हर अनुष्ठान में सोने के आभूषण इस प्रकार खरीदे जाते हैं मानो जैसे कोई प्रथा हो। एक अन्य अध्ययन (हुमा तारिक,2007) ने तीन बुनियादी सवालों का जवाब दिया जैसे महिलाएं आभूषण क्यों कब और कैसे खरीदनी है। उनके अध्ययन में पाया गया कि कई भारतीय

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महिलाएं स्वर्ण आभूषण का प्रयोग करती हैं सोने का सबसे ज्यादा प्रयोग महिलाओं के द्वारा ही किया जाता है। हर अनुष्ठानिक गतिविधि में सोने के आभूषणों का प्रयोग करती है वे मुख्य रूप से आभूषण के रूप में भविष्य में अपने परिवार की वित्तीय सुरक्षा का समर्थन करने के लिए एक निवेश के रूप में सोना खरीदते हैं आभूषण बाजार उपभोक्ता पर आधारित रिपोर्ट में भी यह सिद्ध किया गया के सबसे ज्यादा स्वर्ण आभूषणों का प्रयोग महिलाओं द्वारा ही किया जाता है।

दुबई मल्टी कमोडिटी सेंटर में सोने के व्यापार पर आधारित अध्ययन (दुबई चैंबर ऑफ़ कॉमर्स एंड इंडस्ट्री, 2011) इस बात पर प्रकाश डालता है कि सोने की कीमत बढ़ाने वाला मुख्य कारक भारत और चीन की मांग है। इन दोनों देशों में सोने का प्रयोग अधिकतम किया जाता है।

अधिकतर लोग सोने में भी निवेश करते हैं (डीयूरेट ,2011) मैं लेखन निवेश पर दो अलग-अलग विचार बताता है जैसे धन सृजन के बजाए धन की रक्षा करना और निष्कर्ष निकालना की सोना एक ऐसा निवेश है जो पहली श्रेणी से संबंधित है। इसमें यह भी कहां गया है कि सोना एक ऐसी संपत्ति है जिसका मूल्य अधिक होने की संभावना ज्यादा होती है इसे मुद्रा में परिवर्तित करना आसान होता है और यह बाजार की मंदी से बचाने में मदद करता है। सोने की कीमतों कारण किसी भी देश की आर्थिक स्थिति पर भी प्रभाव पड़ता है लेखन निवेश पोर्टफोलियो में 10 से 20% सोना रखने की सलाह देता है।

वर्ल्ड गोल्ड काउंसिल की एक रिपोर्ट (इंपोस्टर ,2006) ने पहचान की है भारतीयों द्वारा सोने में निवेश का सबसे लोकप्रिय तरीका आभूषण है हालांकि निवेश के विभिन्न अन्य तरीके जैसे सोने के सिक्के ,बुलियन ,गोल्ड ईटीएफ सोने के खनन कंपनियों के शेयर गोल्ड फ्यूचर्स ,आदि उपलब्ध है।

परंतु भारत में सबसे अधिक निवेश स्वर्ण आभूषण पर ही किया जाता है। अधिकतम लोगों के पास यही पूंजी होती है जिसे वह निवेश में प्रयोग करते हैं।
संदर्भ: journal of contemporary social issues, volume 1 issue 2(2022)

2019 में सोने के आभूषणों की कुल मांग 2018 में 598टन से 9% गिरकर 2019 में 5.46टन हो गई जबकि पिछले साल भारत में सोने के आभूषणों की मांग 269.1टन से बढ़कर 294टन हो गई। सोने के आभूषणों की मांग में इस तरह की गिरावट का एक मुख्य कारण सोने की बहुत अधिक कीमतें थी, जिसमें परिणाम स्वरुप सोने के आभूषणों की मांग कम हो गई, हालांकि 2018 नवंबर में शादी के मौसम में इन आभूषणों की कीमत बढ़ गई उनकी मांग उसे समय भी कमजोर थी।

परंतु 2020 के बाद बाजार में एकदम से बदलाव आया और इनकी कीमतों में बढ़ाव हो गया और उनकी मांग भी अधिक रही जो अभी भी अधिक ही है।

मैंडेट के अनुसार, सभी सोने के आभूषणों को 15 जनवरी 2001 तक हॉलमार्क किया जाना था। आभूषणों की अवधि को विनियमित करने के लिए एक वर्ष का समयदिया गया था।

कॉविड-19 के प्रकोप ने पूरी दुनिया मेंझटके दिए। बाधित होने के कारण दुनिया की अर्थव्यवस्था और मृत्यु दर में वृद्धिहुई दुनिया थम सी गई। जबकि इसने वैश्विक स्तर पर प्रभावडाला, शेयर बाजार में भी कोई उत्पाद उस समय उपस्थित नहीं था। सोने की मांग 2019 में 2,107 10टन से गिरकर 2020 में केवल 1,411.6रह गई देश में लॉकडाउन के कारण बाजार बंद हो गए लोगों को नौकरी से निकाल दिया गया। विक्री और वितरण चैनलों में व्यवधान के बीच सोने की कीमतों में गिरावट आई, भारत के ग्रामीण हिस्सों में सोने की मांग के लिए अच्छी खबर मानसून के कारण आई, जिसमें बारिश की लंबी अवधि के औसत अनुमान से 99%, जिससे अच्छी खरीफ फसल

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की कटाई और सरकार से फसल के लिए न्यूनतम समर्थन मूल्य (MSP) की एक उम्मीद जागी। इसलिए ग्रामीण इलाकों में भी लोगों ने सोने को प्रयोग में लाया।

सोने के बाजार में महामारी से प्रभावित वर्ष 2021 में खुद को बहुत अच्छी तरह से बनाया। भारत में सोने के आभूषणों की मांग वर्ष 2021 में आश्चर्य जनक रूप से पिछले 6 वर्षों का रिकॉर्ड तोड़ दिया। जिसमें सोने के आभूषणों की मांग 2020 से बढ़कर अधिक हो गए। दुनिया में सोने के आभूषणों की कुल मांग 2020 में बड़े और आज तक यह मांग बढ़ती ही आ रही है। बढ़ती मांग के साथ-साथ कीमतों पर भी प्रभाव पड़ता है और कीमतें भी बढ़ती जाती है।
संदर्भ: article December 2022 Srasty Katiyar Pandit prithvinath college

आभूषण डिजाइनिंग का महत्व
आभूषण निर्माण और डिजाइनिंग का व्यापार भारतीय समाज में 5000 वर्ष से पूर्व तक भारत में चलन में है। भारत और विश्व में यह हमारी कल और सृजनात्मक को विकसित करता है। यह एक ऐसा उद्योग है जो अंतरराष्ट्रीय स्तर तक फैला हुआ है। प्राचीन काल में कुछ गिने-चुने परिवार ही इस व्यापार से जुड़कर इस उद्योग का हिस्सा बने बदलते समय के साथ कहीं अन्य परिवार, कारीगर, स्वर्णकार भी इस उद्योग में शामिल हुए। आभूषण डिजाइनिंग और निर्माण के उद्योग में कई विकास हुए हैं। आभूषणों की मांग इतनी है कि इस उद्योग में लाभ की संभावना अधिक होती है। आज के आधुनिक दौर में डिजाइनिंग का काम कंप्यूटर ग्राफिक्स द्वारा भी किया जा रहा है। आज की युवा पीढ़ी आभूषण डिजाइनिंग में भी अपना कैरियर बना सकती है यह उनके लिए एक अच्छा विकल्प है। यह उद्योग उन्हें भारत की संस्कृति और परंपरा के प्रति ज्ञान प्राप्त करेगा और उनकी कला और सृजनात्मक को बढ़ावा देगा। इस क्षेत्र में वे कहीं नई तरह की तकनीकी और स्वर्ण आभूषण निर्माण करने की प्रक्रियाएं सीख सकते हैं।

भारत में आभूषण निर्माण उद्योग के विकास के कई तत्व है जो निम्न है।
1) भारत में स्वर्ण आभूषण की मांग अधिक होने के कारण बदलते समय के साथ नए प्रकार के डिज़ाइन की मांग बाजार में बनी रहती है। जिसके कारण आभूषण डिजाइनिंग करियर के लिए एक अच्छा विकल्प साबित होता है।

2) स्वर्ण आभूषण के उद्योग की प्रसिद्धता भारत में ही नहीं बल्कि पूरे विश्व में है। इस कारण से यह उद्योग अंतरराष्ट्रीय स्तर पर फैला हुआ है। यह उद्योग पूरे विश्व में भारत की कला का प्रदर्शन करता है। इसकी प्रसिद्धि के कारण इस उद्योग से जुड़े लोगों के लिए यह उद्योग एक लाभदायक उद्योग साबित होता है।

3) सोनाडिज़ाइन उद्योग में युवा भी अपना कैरियर बना सकते हैं जिन्हें डिजाइनिंग में रुचि है। आभूषण डिजाइनिंग उनके लिए एक अच्छा विकल्प है। यह युवा पीढ़ी को इस क्षेत्र के बारे में ज्ञान प्राप्त होगा और युवा पीढ़ी हमारे देश की इस परंपरा और कला को आगे ले जा सकती है।

प्रक्रियाएं
सोने के आभूषणों को बनाने की कई प्रक्रियाएं होती हैं आधुनिक एवं पारंपरिक आज के समय में दोनों प्रक्रियाओं को प्रयोग में लाया जाता है।
सोने के आभूषणों को बनाने की पारंपरिक प्रक्रियाएं निम्न है।
1.डिजाइन बनाना: सोने के आभूषण के डिजाइन तैयार करने के लिए जिस प्रकार का डिजाइन चाहिए उसे प्रकार का मॉडल मॉम के मॉडल से ही तैयार कियेजाते है।

2.मॉम का मॉडल तैयार करना: सोने के आभूषणों को बनाने के लिए एक मॉम का मॉडल तैयार किया जाता है। इस मॉडल के ऊपर सोने की कड़ियां उसे प्रकार रखी जाती है जिस प्रकार की डिजाइन होती है ।फिर उसे डिजाइन पर प्लास्टर डाला जाता है और उसको प्लास्टर डालकर सेट कर लिया जाता है।

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के कारण सेट हो जाता है उसे बड़ी सावधानी से आराम से बाहर निकाल लिया जाता है।

3.गन और भट्टी से तपाना: फिर उसे आभूषण को गन से दबाया जाता है आवश्यकता अनुसार उसे भट्टी में भी दबाया जाता है। इस प्रक्रिया से आभूषण मजबूत और धारण करने के लिए तैयार हो जाता है।

4. सोने का पानी चढ़ाना: तपाने के बाद इस आभूषण को पानी में डालकर ठंडा किया जाता है उसके बाद इस पर सोने का पानी चढ़ाया जाता है।
इस प्रकार से एक आभूषण पारंपरिक तरीके से तैयार किया जाता है।

आधुनिक तरीके से स्वर्ण आभूषण के निर्माण के प्रक्रियाएं निम्न है।
1) डिजाइन बनाना: आधुनिक तरीके से डिजाइन को कंप्यूटर ग्राफिक्स के द्वारा ही तैयार किया जाता है। यह डिजाइन कंप्यूटर ग्राफिक्स द्वारा निर्मित हो जाते हैं।

2) आकार देना: इन आभूषणों को आज के दौर में लेजर गन से आकर दिया जाता है।

3) मशीन द्वारा रंग देना: लेजर गन से आकार देने के बाद इस मशीन द्वारा ही रंग प्रदान कर दिया जाता है। यंत्रों की सहायता से समय बच जाता है।

आज के दौर में यंत्र का प्रयोगसे ही स्वर्ण आभूषण का निर्माण किया जाता है। पारंपरिक तरीके इनका निर्माण बहुत कम स्थान पर ही देखे जा सकते हैं।

सोने के आभूषण का पूरी तरह से निर्माण हो जाने के बाद इन पर कई प्रकार के परीक्षण किए जाते हैं वह परीक्षण निम्न है।

1) नाइट्रिक एसिड परीक्षण: यह एक ऐसा तरीका है जिससे सोने की शुद्धता को बरखा जाता है स्वर्णकार सोने के टुकड़े पर नाइट्रिक एसिड को डाल देते हैं।

परिणाम: यदि सोना नकली रहा तो वह तेजी से प्रतिक्रिया करेगी और रंग बदला ने लगेगा,असली सोना नाइट्रिक एसिड के साथ कभी भी रंग नहीं बदलता है।

2) एक्वा रेजिया: यह नाइट्रिक और हाइड्रोक्लोरिक एसिड का मिश्रण है, जो केवल सोनी को ही पिघला सकता है सिर्फ इसी एसिड में सोने को पिघलाने की क्षमता है।
परिणाम: असली सोना इस एसिड के प्रभाव में पिघल जाएगा।

3) चुंबकीय परीक्षण: सोना एक गैर चुंबकीय धातु है जो चुंबक से कभी भी आकर्षित नहीं होता। इस धातु पर चुंबक का कोई प्रभाव नहीं पड़ता।
परिणाम: अगर सोना चुंबक से आकर्षित होता है तो उसमें अन्य धातु का मिश्रण हो सकता है असली सोना कभी भी चुंबक से आकर्षित नहीं होगा।
इस प्रकार के परीक्षण के बाद ही स्वर्ण आभूषणों को व्यापारियों और बाजार तक स्वर्णकार द्वारा पहुंचाया जाता है।

निष्कर्ष
सोने के उद्योग में कई छोटे-बड़े संगठन एक साथ मिलकर काम करते हैं। छोटे संगठन में कई स्वर्णकार कारीगर और महिलाएं शामिल है। बड़े संगठनों में व्यापारी और बड़े-बड़े शोरूम शामिल है। पिछले सालों के मुकाबले इस साल 2025 में सोने का भाव अधिक रहा है। इन बढ़ती कीमतों के कारण कुछ लोगों को फायदा हुआ तो कुछ लोगों को नुकसान हुआ हें, कई बड़े व्यापारियों को बहुत मुनाफा हुआ तो कहीं जो छोटे व्यापारी थे उन्हें नुकसान का सामना करना पड़ा बढ़ती कीमतों के कारण कारीगरों को कई परेशानियों का सामना करना पड़ता है इस अध्ययन के कई निष्कर्ष है जो निम्न है।
1) सांस्कृतिक और मौसमी मांग: सोने के आभूषणों की कीमत में बढोतरी होने का कारण उनकी प्रसिध्दता और उनकी मांग है। इसकी मांग शादी के मौसम में और त्योहारों के मौसम में बाजारो में अधिक होती है, भारत देश

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में पूरे साल ही त्योहारों का चलन रहता है। जिसके कारण उनकी मांग बाजार में पूरे वर्ष ही बनी रहती है। बाजार की स्थिति के अनुसार मांग और कीमत में गिरावट हो सकती है।

2) बदलते उपभोक्ता व्यवहार: शहरीकरण और बड़े-बड़े शोरूम के बढ़ाने के कारण उपभोक्ता अब जांच परखकर या टटोलकर जेवर की शुद्धता उसकी कीमत ओर उसके मेकिंग चार्जेस के प्रतिशत को चेक करने के बाद ही स्वर्ण आभूषणों को खरीदे यह अधिकार एक उपभोक्ता को प्राप्त है। उपभोक्ता को जेवर खरीदते समय इन बातों का ध्यान रखना चाहिए।

3) आर्थिक स्थिति में प्रभाव: सोने के बाजार का आर्थिक स्थिति में बहुत महत्वपूर्ण योगदान होता है। यह बाजार अंतरराष्ट्रीय बाजार में भी फैला हुआ है इसीलिए यह आर्थिक स्थिति पर भी प्रभाव डालता है। किसी भी देश की आर्थिक स्थिति उसकी मुद्रा पर निर्भर करती है सोने की कीमतों का प्रभाव मुद्रा पर भी पड़ता है। कीमतों में बदलाव के कारण कहीं भिन्न स्थितियों का सामना करना पड़ता है। यह स्थितियां देश की आर्थिक व्यवस्था पर भी प्रभाव डालती है।

4) बाजार की स्थिति: बाजार की स्थिति पर ध्यान दिया जाए तो कई प्रकार के उतार-चढ़ाव बाजार में साल भर में देखने को मिलते हैं। निरंतर बाजार में बदलाव होता है सोने की कीमत हमेशा अस्थिर होती है। जिससे बाजार पर प्रभाव पड़ता है। कीमतों के बढ़ने से हर व्यक्ति को हानि नहीं होती हैंजो लोग सोने को संपत्ति के रूप में संभाल कर रखते हैं किसी ऐसे मौके के इंतजार में जब कीमतें बाजार में बढ़ जाए तब वह अपने उस सोने को बाजार में बेच देते हैं और उन्हें लाभ हो जाता है।

समस्याएं

स्वर्ण आभूषण के उद्योग में छोटे कारीगर और स्वर्णकारों को कई समस्याओं का सामना करना पड़ता है वह समस्याएं निम्न है।

1) रोजगार में प्रभाव: कीमतों के बढ़ने से रोजगार में प्रभाव पड़ता है। जो लोग संगठित क्षेत्र में काम करते हैं उन्हें अपना रोजगार बढ़ती कीमतों के कारण छोड़ना पड़ता है इसका बल आर्थिक स्थिति पर भी पड़ता है। जिनके परिवार सिर्फ एक व्यक्ति के रोजगार पर निर्भर है वे लोग इस स्थिति में पूर्ण रूप से निराश हो जाते हैं। उन्हें कई परेशानियों और निराशा का सामना करना पड़ता है।

2) श्रम अधिक लाभ कम: छोटे कारीगर और स्वर्णकारों को कई अधिक श्रम करना पड़ता है भट्टी में तप कर और कई देर तक ठोक पिटाई करके दिन-रात मेहनत करके वह एक आभूषण को निर्मित करते हैं। परंतु जब बरी लाभ की आती है तो उनके श्रम के मुकाबले वह लाभ कम होता है। यह एक गंभीर समस्या है जो इनकी आर्थिक व्यवस्था को विचलित करती है।

3) आधुनिकता का चालान: आजकल के बदलते दौर में कई प्रकार के यंत्र आ गए हैं, जिनसे आभूषण बनाएं जाते हैं। इन यंत्रों के आने के कारण पारंपरिक रूप से जो लोग आभूषण निर्मित करते थे। उनके लिए यह एक निराशाजनक स्थिति हो गई है, क्योंकि यंत्रों के आने से लोग यंत्रों का प्रयोग श्रम घटाने के लिए करते हैं। और इस कारण से कई स्वर्णकारों को अपना रोजगार माध्यम छोड़ना पड़ता है।

सुझाव

बाजार में इन स्वर्णकार और कई हजार कारीगरों की कला को इतनी महत्वता नहीं मिलती जितनी आधुनिक यंत्रों से बने आभूषणों को मिल रही है। परंतु इनकी कलाही है जो भारत की संस्कृति का प्रतीक है इस विषय में कुछ सुझाव निम्न है।
1) बड़े व्यापारियों को छोटे कारीगरों को एक संगठन में रखकर कार्य करना चाहिए और उन्हें भी उनकी कला के लिए महत्वता और सही मूल्य प्रदान करना चाहिए। जिससे उनका मनोबल बड़े और वह आर्थिक रूप से भी स्वतंत्र रहे। इस तरह से उन्हें भी बाजार की

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बदलती स्थिति से रोजगार छोड़ने का डर नहीं रहेगा।

2) आम आदमी को स्वर्णकारों से भी आभूषण बनवाना और खरीदना चहिये | जिससे हमें मेकिंग चार्ज कम से कम देना पड़ेगा और एक आम आदमी का एक आम आदमी के सहयोग में योगदान भी होगा इससे इनका मनोबल और रोजगार बढ़ सकता है। और हम हमारी पारंपरिक कला को जीवित रख सकते हैं। हमारा एक योगदान किसी के रोजगार और खुशी का कारण बन सकता है।

3) हमें आधुनिकता के साथ परंपरागत आभूषणों को भी प्रयोग में लाना चाहिए ताकि विदेशी संस्कृतियों हमारे स्वदेशी संस्कृतियों को नष्ट न कर दे इससे हमारे देश की आर्थिक व्यवस्था में सुधार होगा। आज आधुनिकताको अपनाना सही है। परंतु अपनी परंपराओं को भी भूलना नहीं चाहिए उनका भी ध्यान रखना हमारी ही जिम्मेदारीहै।

संदर्भ ग्रंथ सूची

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भारत में साइबरबुलिंग: विधिक चुनौतियां, सांख्यिकीय रुझान और निवारण तंत्र

निधि बिल्लौरे, *छात्रा, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*
अंजली हार्डिया, *छात्रा, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*
डॉ. जलज सेठी, *सहायक प्राध्यपक, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*

1. सारांश: इंटरनेट क्रांति ने मानव जीवन को सुगम बनाया है, लेकिन इसके साथ ही 'साइबरबुलिंग' जैसे डिजिटल अपराधों का भी उदय हुआ है[1]।यह शोध पत्र साइबरबुलिंग की अवधारणा, इसके विविध रूपों और भारतीय समाज पर इसके प्रभाव का विस्तृत विश्लेषण करता है।शोध में पाया गया है कि सोशल मीडिया, गेमिंग प्लेटफॉर्म और इंस्टेंट मैसेजिंग के माध्यम से किया गया उत्पीड़न पीड़ितों,विशेषकर युवाओंके मानसिक स्वास्थ्य पर गहरा आघात करता है।सांख्यिकीय विश्लेषण (NCRB 2022) के आधार पर यह पत्र भारत के वर्तमान कानूनी ढांचे, विशेष रूप से सूचना प्रौद्योगिकी अधिनियम, 2000 और भारतीय न्याय संहिता (BNS) की प्रभावशीलता का मूल्यांकन करता है।अंत में, यह अध्ययन एक त्रि-स्तरीय निवारण ढांचा (पहचान, प्रबंधन, रोकथाम) प्रस्तावित करता है।

कुंजी शब्द:साइबरबुलिंग, मानसिक स्वास्थ्य, आईटी अधिनियम 2000, भारतीय न्याय संहिता (BNS), डिजिटल साक्षरता, साइबर स्टॉकिंग, NCRB डेटा।

2. प्रस्तावना

इक्कीसवीं सदी में सूचना और संचार प्रौद्योगिकी के प्रसार ने सामाजिक संपर्क की परिभाषा बदल दी है।जहाँ एक ओर सोशल मीडिया ने लोगों को जोड़ा है, वहीं दूसरी ओर इसने 'साइबरबुलिंग' जैसे अपराधों को जन्म दिया है।साइबरबुलिंग से तात्पर्य डिजिटल उपकरणों जैसे मोबाइल फोन, कंप्यूटर और टैबलेट का उपयोग करके किसी व्यक्ति को जानबूझकर, बार-बार परेशान करना, धमकाना या शर्मिंदा करना है।पारंपरिक बदमाशी (Traditional Bullying) के विपरीत, साइबरबुलिंग की कोई भौगोलिक सीमा नहीं होती और यह 24 घंटे, सातों दिन चल सकती है।इसमें अपराधी अक्सर गुमनामी (Anonymity) का फायदा उठाता है, जिससे पीड़ित के लिएअपराधी की पहचान करना कठिन हो जाता है।यह समस्या इसलिए भी गंभीर है क्योंकि डिजिटल स्पेस में पोस्ट की गई अपमानजनक सामग्री स्थायी हो सकती है और इसे विशाल दर्शकों द्वारा देखा जा सकता है, जिससे पीड़ित का अपमान बार-बार होता है।

3. साहित्य की समीक्षा

साइबरबुलिंग पर किए गए पूर्व अध्ययनों से यह स्पष्ट होता है कि यह एक वैश्विक महामारी का रूप ले चुका है।

- **व्यापकता:**भारत में किए गए अध्ययनों से संकेत मिलता है कि लगभग 85% बच्चे किसी न किसी रूप में साइबरबुलिंग के शिकार हुए हैं।यह आंकड़ा चिंताजनक है और तत्काल हस्तक्षेप की मांग करता है।
- **मनोवैज्ञानिक प्रभाव:**शोध बताते हैं कि साइबरबुलिंग के शिकार बच्चों में चिंता, अवसाद, स्कूल से दूरी बनाने की प्रवृत्ति और आत्म-सम्मान में भारी कमी देखी गई

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है।कई मामलों में यह आत्मघाती विचारों का कारण भी बनता है।

- **स्वरूप:**साहित्य समीक्षा से पता चलता है कि साइबरबुलिंग केवल अपशब्द कहने तक सीमित नहीं है, बल्कि इसमें व्यक्तिगत डेटा लीक करना (Doxing) और चरित्र हनन भी शामिल है।

4. शोध प्रविधि

प्रस्तुत शोध पत्र 'वर्णनात्मक और विश्लेषणात्मक' (Descriptive and Analytical) प्रकृति का है।

- **डेटा स्रोत:**यह अध्ययन पूर्णतः द्वितीयक स्रोतों (Secondary Data) पर आधारित है।इसमें सरकारी रिपोर्ट (NCRB), विधिक दस्तावेज (IT Act, IPC/BNS), और पूर्व प्रकाशित अकादमिक शोध पत्रों का विश्लेषण किया गया है।
- **उद्देश्य:**साइबरबुलिंग के प्रकारों की जांच करना, मानसिक प्रभावों का मूल्यांकन करना और कानूनी उपचारों की समीक्षा करना।

5. डेटा विश्लेषण और सांख्यिकीय रुझान

इस शोध का एक महत्वपूर्ण हिस्सा भारत में साइबर अपराधों के बढ़ते ग्राफ का विश्लेषण करना है। यहाँ प्रस्तुत डेटा राष्ट्रीय अपराध रिकॉर्ड ब्यूरो (NCRB) और स्वतंत्र सर्वेक्षणों पर आधारित है।

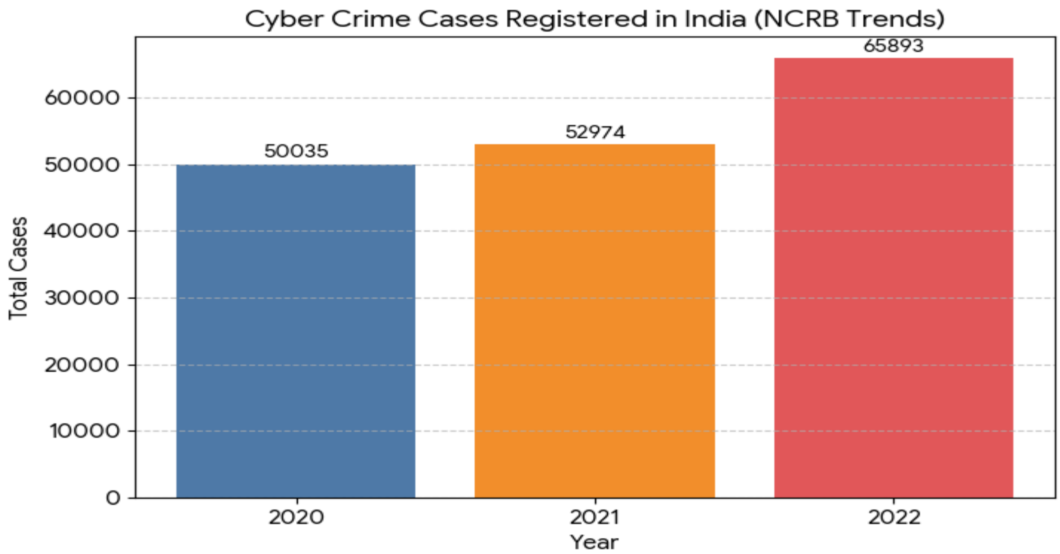
5.1 भारत में साइबर अपराध की वृद्धि (वार्षिक तुलना)

नीचे दी गई तालिका (Table 1) पिछले तीन वर्षों में भारत में दर्ज किए गए साइबर अपराध के मामलों को दर्शाती है।

तालिका 1: भारत में पंजीकृत साइबर अपराध के मामले (स्रोत: NCRB)

वर्ष (Year)	कुल मामले (Total Cases)	वृद्धि दर (Growth Trend)
2020	50,035	आधार वर्ष
2021	52,974	↑ 5.9% वृद्धि
2022	65,893	↑ 24.4% वृद्धि

विश्लेषण:आंकड़ों से स्पष्ट है कि 2021 से 2022 के बीच मामलों में लगभग 24.4% की भारी उछाल आई है। यह डिजिटल पहुंच बढ़ने के साथ-साथ जोखिमों में वृद्धि का संकेत है।



(स्रोत: NCRB)

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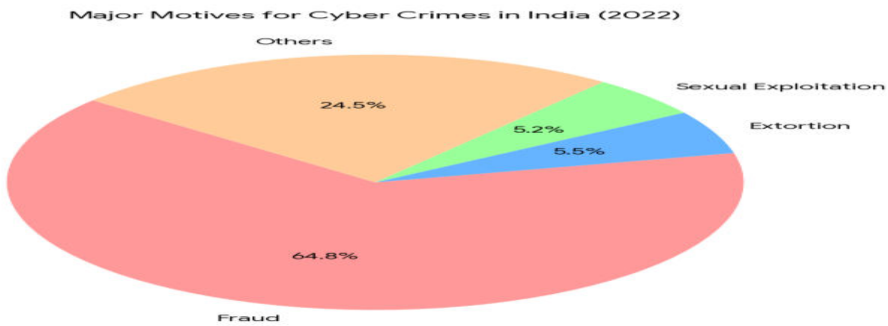
5.2 साइबर अपराध और बुलिंग के उद्देश्य

अपराधी किस मंशा से डिजिटल अपराध करते हैं, इसका विश्लेषण नीचे तालिका 2 में दिया गया है।

तालिका 2: साइबर अपराधों के पीछे के प्रमुख उद्देश्य (2022)

उद्देश्य (Motive)	**प्रतिशत (%)**	**विवरण**
धोखाधड़ी (Fraud)	64.8%	आर्थिक लाभ के लिए डेटा चोरी।
जबरन वसूली (Extortion)	5.5%	ब्लैकमेलिंग और धमकी।
यौन शोषण (Sexual Exploitation)	5.2%	अश्लील सामग्री और इमेज मॉर्फिंग।
अन्य (प्रतिशोध, प्रैंक आदि)	24.5%	व्यक्तिगत बदला और ट्रोलिंग।

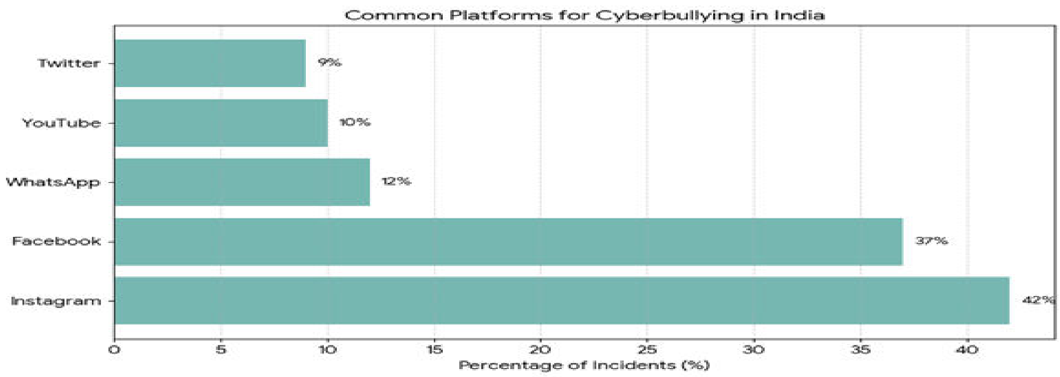


(स्रोत: NCRB)

5.3 सबसे प्रभावित प्लेटफॉर्म

सर्वेक्षणों के अनुसार, साइबरबुलिंग की घटनाएं सबसे अधिक निम्नलिखित प्लेटफॉर्म्स पर होती हैं:

- **इंस्टाग्राम (Instagram):** 42%
- **फेसबुक (Facebook):** 37%
- **व्हाट्सएप (WhatsApp):** 12%
- **यूट्यूब (YouTube) :** 10 %
- **ट्विटर (Twitter) :** 9 %



(स्रोत: NCRB)https://cybercrime.gov.in

6. साइबरबुलिंग के प्रकार और कार्यप्रणाली

साइबरबुलिंग एक बहुआयामी अपराध है।इस शोध में इसके निम्नलिखित प्रमुख प्रकारों की पहचान की गई है:

1. **उत्पीड़न (Harassment):**यह सबसे सामान्य रूप है।इसमें पीड़ित को लगातार अपमानजनक संदेश भेजना, ईमेल करना या सोशल मीडिया पर टैग करके परेशान करना शामिल है।

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2. **ट्रोलिंग (Trolling):**इसका उद्देश्य किसी व्यक्ति को उकसाना और ऑनलाइन झगड़े शुरू करना है।ट्रोलर अक्सर अप्रासंगिक और भड़काऊ टिप्पणियां करते हैं।
3. **साइबरस्टॉकिंग (Cyberstalking):**यह उत्पीड़न का गंभीर रूप है जिसमें पीड़ित की ऑनलाइन गतिविधियों की निगरानी करना और शारीरिक नुकसान की धमकी देना शामिल है।यह भारतीय कानून के तहत दंडनीय है।
4. **डॉक्सिंग/आउटिंग (Outing/Doxing):**किसी व्यक्ति की निजी जानकारी, जैसे तस्वीरें, चैट या दस्तावेज, उसकी सहमति के बिना सार्वजनिक कर देना।
5. **छद्मवेश (Impersonation):**अपराधी पीड़ित के नाम से फर्जी अकाउंट बनाता है और आपत्तिजनक सामग्री पोस्ट करता है ताकि पीड़ित की छवि खराब हो सके।
6. **बहिष्करण (Exclusion):**किसी व्यक्ति को जानबूझकर ऑनलाइन समूहों या गतिविधियों से बाहर रखना ताकि वह अलग-थलग महसूस करे।
7. **ज्वलनशील (Flaming):**इसमें पीड़ित पर सीधा हमला होता है ताकि उसे ऑनलाइन झगड़े के लिए उकसाया जा सके।

7. प्रभाव: एक विस्तृत विश्लेषण

7.1 मानसिक और भावनात्मक प्रभाव

साइबरबुलिंग पीड़ित के मनोविज्ञान को गहराई से प्रभावित करती है।

- **अवसाद और चिंता:**पीड़ित लगातार भय के साये में रहता है, जिससे 'एंजायटी डिसऑर्डर' विकसित हो सकता है।
- **आत्म-सम्मान में कमी:**बार-बार अपमानित होने से पीड़ित खुद को दोषी मानने लगता है।
- **आत्महत्या की प्रवृत्ति:**गंभीर और लंबे समय तक चलने वाले उत्पीड़न के मामलों में, पीड़ित आत्महत्या को ही एकमात्र रास्ता मानने लगते हैं, जिसे 'साइबरबुलिसाइड' (Cyberbullicide) कहा जाता है।

7.2 शारीरिक स्वास्थ्य प्रभाव

मानसिक तनाव का सीधा असर शरीर पर पड़ता है।पीड़ितों में अक्सर अनिद्रा (Insomnia), पेट दर्द, सिरदर्द और थकान की शिकायतें पाई जाती हैं।भूख न लगना और ऊर्जा के स्तर में गिरावट भी सामान्य लक्षण हैं।

7.3 सामाजिक और शैक्षणिक प्रभाव

पीड़ित अक्सर समाज से कटने लगते हैं (Social Isolation) । इसका असर उनकी पढ़ाई पर पड़ता है; स्कूल जाने से डरना और ग्रेड्स में गिरावट आम बात है।

8. भारत में विधिक ढांचा

भारत में साइबरबुलिंग से निपटने के लिए कोई एक विशिष्ट 'एंटी-साइबरबुलिंग कानून' नहीं है, लेकिन विभिन्न अधिनियमों का संयोजन इसे कवर करता है।

8.1 सूचना प्रौद्योगिकी अधिनियम, 2000 (IT Act)

- **धारा 66E (गोपनीयता का उल्लंघन):**किसी की सहमति के बिना उसकी निजी तस्वीरें खींचना या प्रसारित करना। (सजा: 3 साल तक)।
- **धारा 66C और 66D:**पहचान की चोरी (Identity Theft) और फर्जी प्रोफाइल बनाकर धोखा देना।
- **धारा 67/67A:**इलेक्ट्रॉनिक रूप में अश्लील या कामुक सामग्री का प्रकाशन। (सजा: 5 साल तक)।

8.2 भारतीय न्याय संहिता (BNS)

नए कानूनों (BNS) के तहत निम्नलिखित प्रावधान प्रभावी हैं:

- **मानहानि (Defamation):**ऑनलाइन झूठी अफवाहें फैलाना धारा 356 BNS (पूर्व में 499 IPC) के तहत अपराध है।
- **साइबर स्टॉकिंग:**धारा 74 BNS (पूर्व में 354D IPC) के तहत किसी महिला का ऑनलाइन पीछा करना या संपर्क करने का प्रयास करना दंडनीय है।

- **धमकी:**ऑनलाइन माध्यम से जान से मारने या चोट पहुँचाने की धमकी देना धारा 351-356 BNS के तहत आता है।

8.3 पॉक्सो अधिनियम (POCSO Act)
यदि पीड़ित 18 वर्ष से कम आयु का है और मामला यौन उत्पीड़न से जुड़ा है, तो पॉक्सो एक्ट की कठोर धाराएं लागू होती हैं।

9. निवारण ढांचा और समाधान
इस शोध में साइबरबुलिंग से निपटने के लिए एक'**त्रि-स्तरीय ढांचा' (Three-Tiered Framework)**प्रस्तावित किया गया है:

स्तर 1: पहचान (Identification)
- **व्यावहारिक संकेत:**माता-पिता और शिक्षकों को बच्चों के व्यवहार में बदलाव (जैसे उदासी, चिड़चिड़ापन) को पहचानना चाहिए।
- **तकनीकी निगरानी:**मशीन लर्निंग (Machine Learning) उपकरणों का उपयोग करके सोशल मीडिया पर आपत्तिजनक सामग्री को फ्लैग किया जाना चाहिए।

स्तर 2: प्रबंधन (Management)
- **प्रतिक्रिया:**घटना होने पर तुरंत सबूत (स्क्रीनशॉट) सुरक्षित करें और अपराधी को ब्लॉक करें।
- **रिपोर्टिंग:**राष्ट्रीय साइबर अपराध पोर्टल **(cybercrime.gov.in)** या हेल्पलाइन**1930**पर शिकायत दर्ज करें।

स्तर 3: रोकथाम (Prevention)
- **शिक्षा:**स्कूलों में डिजिटल साक्षरता को पाठ्यक्रम का हिस्सा बनाया जाए।
- **नेटिकेट:**बच्चों को 'नेटिकेट' (Netiquette) या ऑनलाइन शिष्टाचार सिखाया जाना अनिवार्य है।

10. निष्कर्ष और भविष्य की दिशा
10.1 शोध का सार
इस शोध अध्ययन से यह स्पष्ट रूप से स्थापित होता है कि साइबरबुलिंग अब केवल एक तकनीकी समस्या नहीं, बल्कि एक सामाजिक विकृति है । प्रस्तुत शोध में विश्लेषण किए गए आंकड़े एक गंभीर विरोधाभास को उजागर करते हैं , जहाँ एक ओर सर्वेक्षणों में 85% बच्चे पीड़ित पाए गए, वहीं दूसरी ओर NCRB के आंकड़े कम हैं। यह "डिजिटल चुप्पी की संस्कृति" को दर्शाता है।

10.2 विधिक विश्लेषण
विधिक दृष्टिकोण से, सूचना प्रौद्योगिकी अधिनियम, 2000 और भारतीय न्याय संहिता (BNS) का एकीकरण एक सशक्त कदम है। विशेष रूप से BNS की धारा 74 (साइबर स्टॉकिंग) ने अपराध को स्पष्ट परिभाषित किया है। हालाँकि, कानून केवल प्रतिक्रियात्मक हैं; वास्तविक समाधान निवारक उपायों में है।

10.3 भविष्य की दिशा और सिफारिशें
एक शोधार्थी के रूप में, यह अध्ययन निम्नलिखित सिफारिशें करता है:
1. **तकनीकी हस्तक्षेप:**सोशल मीडिया प्लेटफॉर्म्स को**AI-आधारित एल्गोरिदम**लागू करने चाहिए जो 'हेट स्पीच' को रीयल-टाइम में रोक सकें।
2. **हाइब्रिड विजिलेंस मॉडल:**पुलिस, स्कूलों और अभिभावकों का एक साझा नेटवर्क होना चाहिए।
3. **जागरूकता:**केवल कानून बनाना पर्याप्त नहीं है; हेल्पलाइन 1930 और पोर्टल के प्रति जागरूकता बढ़ाना अनिवार्य है।

अंततः, हमें 'डिजिटल साक्षरता' से आगे बढ़कर**'डिजिटल लचीलेपन' (Digital Resilience)**की ओर बढ़ना होगा, ताकि एक सुरक्षित ऑनलाइन वातावरण का निर्माण हो सके।

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साक्षी अनजाने, *छात्रा, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*
डॉ.जलज सेठी, *सहायक प्राध्यापक, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*

1. सार: भारतीय वास्तुकला (Architecture) केवल ईंट, गारा और पत्थरों का संयोजन नहीं है, अपितु यह भारत की ऐतिहासिक, सांस्कृतिक और आध्यात्मिक यात्रा का एक जीवंत दस्तावेज है।इस शोध पत्र का मुख्य उद्देश्य भारतीय स्थापत्य कला के विकास क्रम में पारंपरिक डिज़ाइनों और उनके सौंदर्यशास्त्र (Aesthetics) का गहन अध्ययन करना है।यह शोध वैदिक काल की अस्थायी लकड़ी की संरचनाओं से लेकर मध्यकालीन भव्य प्रस्तर मंदिरों और आधुनिक अनुकूलन तक की यात्रा को रेखांकित करता है।प्रस्तुत अध्ययन विशेष रूप से इस बात का विश्लेषण करता है कि कैसे विभिन्न लोक कला शैलियाँ—जैसे मधुबनी, वारली, फड़, कलमकारी और ज्यामितीय रूपांकन—वास्तुशिल्प सजावट का अभिन्न अंग रही हैं।शोध यह भी दर्शाता है कि 20वीं सदी के वास्तुशिल्प परिवर्तनों और आधुनिकतावाद की दौड़ में पारंपरिक सौंदर्यबोध को संरक्षित करना हमारी सांस्कृतिक धरोहर के अस्तित्व के लिए अनिवार्य है।

कुंजी शब्द :भारतीय वास्तुकला, सौंदर्यशास्त्र, पारंपरिक डिज़ाइन, रूपांकन (Motifs), मंदिर वास्तु, लोक कला, सांस्कृतिक धरोहर।

2. प्रस्तावना

वास्तुकला संभवतः भारतीय सभ्यता का सबसे बड़ा और सबसे दृश्यमान कलात्मक गौरव है।इसका एक लंबा और समृद्ध इतिहास है, जो हजारों वर्षों की परंपराओं को समेटे हुए है।भारतीय वास्तुकला की परिभाषा केवल वर्तमान भारत तक सीमित नहीं है, बल्कि इसमें संपूर्ण भारतीय उपमहाद्वीप (जिसमें पाकिस्तान और बांग्लादेश भी शामिल हैं) की निर्माण परंपराएं समाहित हैं।

ऐतिहासिक रूप से, 20वीं सदी भारतीय वास्तुशिल्प डिज़ाइन के विकास में एक महत्वपूर्ण युग रही है, जिसकी विशेषता पारंपरिक शैलियों से आधुनिकता की ओर एक नाटकीय बदलाव थी।प्राचीनतम भारतीय इमारतें मुख्य रूप से लकड़ी और बाद में ईंटों से निर्मित थीं।लकड़ी की नश्वर प्रकृति के कारण, उन प्राचीन संरचनाओं के बहुत कम उदाहरण आज शेष हैं, क्योंकि वे भारतीय जलवायु की कठोरता को सहन नहीं कर सके।

लगभग छठी शताब्दी ईसा पूर्व तक, उपमहाद्वीप में एक महत्वपूर्ण परिवर्तन आया और पत्थर की वास्तुकला का निर्माण आरंभ हुआ।भारतीय वास्तुकार और शिल्पकार शीघ्र ही पत्थर की इमारतों की नक्काशी और निर्माण में अत्यधिक कुशल हो गए।सातवीं शताब्दी ईस्वी तक, महलों और मंदिरों जैसी बड़े आकार की महत्वपूर्ण इमारतों के लिए पत्थर का उपयोग अत्यंत लोकप्रिय हो गया था। भारतीय संदर्भ में, वास्तुकला और मूर्तिकला का संबंध अत्यंत घनिष्ठ रहा है।यहाँ तक कि स्वतंत्र पत्थर की इमारतें भी मूर्तिकला और नक्काशी से इतनी परिपूर्ण हैं कि उन्हें

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वास्तुकला से अलग करना कठिन प्रतीत होता है।

3. अध्ययन के उद्देश्य

इस शोध अध्ययन को निम्नलिखित प्रमुख उद्देश्यों को ध्यान में रखकर तैयार किया गया है:

1. **ऐतिहासिक और सांस्कृतिक समझ:**भारतीय वास्तुकला के ऐतिहासिक विकास और इसके सांस्कृतिक महत्व का गहन विश्लेषण करना।
2. **धार्मिक आस्थाओं का प्रभाव:**यह समझना कि प्राचीन भारतीय समाज की धार्मिक मान्यताओं और मूल्यों ने स्थापत्य कला को कैसे आकार दिया।
3. **शक्ति और वैभव का प्रदर्शन:**इस बात का अध्ययन करना कि शासक वर्गों ने महलों और मंदिरों के माध्यम से अपनी शक्ति और वैभव का प्रदर्शन किस प्रकार किया।
4. **लोक कलाओं का योगदान:**पारंपरिक लोक कलाओं (जैसे वारली, मधुबनी) और डिज़ाइनों का वास्तुशिल्प सौंदर्य में योगदान को रेखांकित करना।
5. **आधुनिक संदर्भ में प्रासंगिकता:** 20वीं सदी के सामाजिक-राजनीतिक परिवर्तनों के बीच आधुनिकतावाद और परंपरा के द्वंद्व को समझना।

4. अध्ययन की आवश्यकता एवं महत्व

भारतीय कला और वास्तुकला के प्राचीन रूपों को समझना न केवल अकादमिक दृष्टि से महत्वपूर्ण है, बल्कि यह हमारी सांस्कृतिक धरोहर को संरक्षित करने की आवश्यकता को भी रेखांकित करता है। आधुनिकतावाद की आंधी में क्षेत्रीय विविधताओं और पारंपरिक अनुकूलनों का लोप हो रहा है।यह शोध आधुनिकतावाद की क्षेत्रीय विविधताओं का पता लगाएगा और यह समझने का प्रयास करेगा कि विभिन्न सांस्कृतिक और भौगोलिक संदर्भों में वास्तुशिल्प अभिव्यक्तियाँ कैसे बदलती हैं। वास्तुशिल्प परिवर्तन के पीछे की प्रेरणाओं को समझने के लिए उस समय की सामाजिक-राजनीतिक और आर्थिक ताकतों को समझना आवश्यक है।यह अध्ययन वास्तुकला को केवल एक निर्माण प्रक्रिया के रूप में नहीं, बल्कि सामाजिक इतिहास के एक दर्पण के रूप में प्रस्तुत करता है।

5. भारतीय स्थापत्य कला: एक ऐतिहासिक परिप्रेक्ष्य

भारतीय वास्तुकला का उद्भव और विकास प्रकृति के सानिध्य में हुआ। इसका आधार 'धरती' में और विकास 'वृक्षों' के रूप में देखा जा सकता है।वैदिक वाङ्मय में 'महावन', 'तोरण' (प्रवेश द्वार), और 'गोपुर' के उल्लेख इस बात की पुष्टि करते हैं कि प्रारंभिक प्रेरणा वन और प्रकृति से ली गई थी।

5.1 प्रारंभिक शहरीकरण और विकासधीरे-धीरे मानव सभ्यता ने नगरों की रचना की और स्थायी निवास बनाए।ऐतिहासिक साक्ष्यों के अनुसार, बिहार में मगध की राजधानी 'राजगृह' 8वीं शताब्दी ईसा पूर्व में उन्नति के शिखर पर थी।बौद्ध लेखक धम्मपाल के वर्णनों के अनुसार, पाँचवीं शताब्दी ईसा पूर्व में 'महागोविन्द' नामक विख्यात स्थपति (Architect) ने उत्तर भारत की अनेक राजधानियों के विन्यास (Layouts) तैयार किए थे।उस समय की नगर योजना में चौकोर नगरियाँ होती थीं, जो मुख्य सड़कों द्वारा चार भागों में विभाजित होती थीं, जिसके एक भाग में राजमहल स्थित होते थे।

5.2 मंदिर वास्तु का स्वर्णिम युगहिंदू वास्तुकौशल का विस्तार महलों, दुर्गों और बावड़ियों तक हुआ, लेकिन यह मंदिरों में विशेष रूप से मुखर हुआ।गुप्तकाल (350-650 ई.) को भारतीय मंदिर वास्तु का रचनात्मक काल माना जा सकता है, जहाँ इसके स्वरूप में स्थिरता आई। 7वीं शताब्दी के अंत तक, मंदिर के ऊपर 'शिखर' का निर्माण एक अनिवार्य अंग बन गया।

मुख्यतः दो शैलियाँ उभरीं:

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- **नागर शैली (उत्तर भारत)**:ग्वालियर का "तेली का मंदिर" (11वीं शती) और भुवनेश्वर का "बैताल देवल मंदिर" (9वीं शती) इसके उत्कृष्ट उदाहरण हैं।
- **द्रविड़ शैली (दक्षिण भारत)**:सोमंगलम् और मणिमंगलम् के चोल मंदिर इस शैली का प्रतिनिधित्व करते हैं।

5.3 चालुक्य और मिश्रित शैलियाँये शैलियाँ कड़े भौगोलिक बंधनों में नहीं थीं। चालुक्य वंश की राजधानी 'पट्टदकल' वास्तुकला के संगम का एक अद्भुत उदाहरण है।यहाँ के दस मंदिरों में से चार (जैसे पप्पानाथ और काशीविश्वनाथ) उत्तरी 'नागर' शैली के हैं, जबकि छह (जैसे संगमेश्वर और विरूपाक्ष) दक्षिणी 'द्रविड़' शैली के हैं। 10वीं-11वीं शताब्दी में पल्लव, चोल, पांड्य और राष्ट्रकूट राजवंशों ने इस स्थापत्य कला को नई ऊँचाइयों पर पहुँचाया।

वास्तुकला में पारंपरिक लोक कला और डिज़ाइन का एकीकरण

भारतीय वास्तुकला की एक अनूठी विशेषता यह है कि यह संरचनात्मक ढांचे के साथ-साथ 'सतह अलंकरण' (Surface Ornamentation) पर भी समान जोर देती है।विभिन्न लोक कलाओं ने भवनों की दीवारों, छतों और स्तंभों को कैनवास के रूप में उपयोग किया है।

6.1 मधुबनी (मिथिला) चित्रकलाबिहार के मिथिला क्षेत्र में उत्पन्न यह शैली भारतीय कला की सबसे प्रसिद्ध शैलियों में से एक है। इसकी विशेषता आकर्षक ज्यामितीय पैटर्न और पौराणिक कथाओं के दृश्य हैं।इसमें रंगों की जीवंतता और पैटर्न की सरलता का अद्भुत संतुलन होता है।मधुबनी की पाँच विशिष्ट शैलियाँ—भरनी, कटचनी, तांत्रिक, गोदना और कोहबर—वास्तुशिल्प भित्ति चित्रों (Murals) में गहराई जोड़ती हैं।

6.2 वारली चित्रकलामहाराष्ट्र की वारली जनजाति की यह कला लगभग 2500 वर्ष पुरानी परंपरा है। यह कला प्रकृति और सामाजिक रीति-रिवाजों से गहराई से जुड़ी है।परंपरागत रूप से, महिलाएं मिट्टी की दीवारों पर चावल के लेप (सफेद रंग) का उपयोग करके फसल कटाई या विवाह जैसे दृश्यों को चित्रित करती थीं। वारली कला में वृत्त, त्रिभुज और वर्ग जैसी ज्यामितीय आकृतियों का प्रयोग जीवन चक्र को दर्शाता है।इसकी सादगी आधुनिक 'मिनिमलिस्ट' (Minimalist) आर्किटेक्चर के लिए अत्यंत प्रासंगिक है।

6.3 फड़ और कथात्मक डिज़ाइनराजस्थान की फड़ चित्रकला एक कथात्मक स्क्रॉल परंपरा है।यह स्थानीय देवताओं और वीरों की कहानियों को वास्तुशिल्प स्थानों में 'स्टोरीटेलिंग' के माध्यम के रूप में प्रस्तुत करती है।लाल, पीले और नारंगी रंगों का प्रयोग महलों और हवेलियों के गलियारों में एक ऊर्ज़ावान वातावरण का निर्माण करता है।

6.4 कलमकारी और पटचित्रआंध्र प्रदेश की कलमकारी, जिसका फ़ारसी रूपांकनों से गहरा संबंध है, अपनी जटिल पुष्प लताओं और मेहराब डिज़ाइनों के लिए जानी जाती है।वहीं, ओडिशा की पटचित्र शैली अपने गहरे रेखाचित्रों और धार्मिक विषयों के साथ मंदिर वास्तुकला के स्तंभों और छतों को अलंकृत करने के लिए प्रेरणा देती है।

7. रूपांकन और सौंदर्यशास्त्र: प्रतीकों की भाषा

वास्तुकला में सौंदर्यशास्त्र का निर्माण केवल सामग्री से नहीं, बल्कि 'रूपांकनों' (Motifs) के माध्यम सेहोता है।

7.1 ज्यामितीय रूपांकन ज्यामितीय कला, जिसमें वर्ग, वृत्त और त्रिभुज जैसी बुनियादी आकृतियों का उपयोग होता है, भारतीय स्थापत्य की रीढ़ रही है।हड़प्पा सभ्यता की ईंटों से लेकर इस्लामिक वास्तुकला की जटिल जालियों तक, ज्यामिति ने स्थिरता और संतुलन प्रदान किया है।यह एक अमूर्त कला है जो समकालीन डिजाइनरों को भी प्रेरित करती है।

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7.2 प्रकृति रूपांकन प्रकृति रूपांकनों में फूल, वनस्पति, जीव-जंतु और परिदृश्य शामिल हैं।भारतीय संदर्भ में, ये केवल सजावट नहीं हैं, बल्कि ये उर्वरता, जीवन और ईश्वरीयता के प्रतीक हैं।गुफाओं से लेकर महलों तक, प्रकृति का चित्रण पर्यावरण के साथ मनुष्य के गहरे और अटूट संबंध को दर्शाता है। उदाहरण के लिए, कमल का फूल पवित्रता का और हाथी वैभव का प्रतीक बनकर द्वारों और स्तंभों पर उभरा है।

8. निष्कर्ष

प्रस्तुत शोध पत्र के विश्लेषण से यह स्पष्ट होता है कि भारतीय स्थापत्य कला और पारंपरिक डिज़ाइन केवल अतीत के अवशेष नहीं हैं, बल्कि वे एक निरंतर प्रवाहित होने वाली 'जीवंत परंपरा' हैं।यद्यपि 20वीं सदी में आधुनिकतावाद और कंक्रीट के जंगल का विस्तार हुआ है, फिर भी पारंपरिक रूपांकनों और लोक कला शैलियों की प्रासंगिकता कम नहीं हुई है।

मधुबनी के रंगों से लेकर वारली की ज्यामितीय सादगी तक, भारतीय लोक कलाओं ने वास्तुकला को एक मानवीय चेहरा प्रदान किया है।अध्ययन का निष्कर्ष यह है कि भारतीय वास्तुकला का वास्तविक सौंदर्यशास्त्र उसकी विविधता और प्रतीकवाद (Symbolism) में निहित है।चाहे वह मंदिर के गगनचुंबी शिखर हों या आदिवासी झोपड़ी की दीवारों पर उकेरी गई आकृतियाँ, प्रत्येक तत्व का एक गहरा दार्शनिक अर्थ है।

आज के आधुनिक आर्किटेक्ट्स और डिजाइनरों के लिए यह आवश्यक है कि वे 'ब्लाइंड मॉडर्नाइजेशन' (अंधाधुंध आधुनिकता) के बजाय इन पारंपरिक मूल्यों को अपनी डिजाइनों में एकीकृत करें।यह न केवल हमारी सांस्कृतिक पहचान को संरक्षित करेगा बल्कि आधुनिक निर्माणों को एक आत्मा भी प्रदान करेगा।

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मध्य प्रदेश की लोक संगीत परंपरा: स्वरूप, घटक और सामाजिक प्रभाव का विश्लेषणात्मक अध्ययन

नमित सेन, *छात्र, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*

डॉ. जलज सेठी, *सहायक प्राध्यपक, विशिष्ट स्कूल ऑफ़ मैनेजमेंट, इंदौर*

सारांश: प्रस्तुत शोध पत्र संगीत, विशेषकर मध्य प्रदेश के लोक संगीत की भूमिका और महत्त्व का गहन विश्लेषण करता है। संगीत केवल मनोरंजन का साधन नहीं है, बल्कि यह सांस्कृतिक पहचान, मानवीय भावनाओं की अभिव्यक्ति और सामाजिक एकता का एक सशक्त माध्यम है। यह अध्ययन संगीत के तीन मूलभूत घटकों—गायन, वादन और नृत्य—के बीच के अटूट संबंध की जांच करता है। इसे मेरुदंड (Spine) के रूपक (metaphor) के माध्यम से समझाया गया है। इसके अतिरिक्त, यह मध्य प्रदेश की प्रमुख लोक शैलियों (बुंदेलखंडी, मालवी, निमाड़ी और गोंडी) की विशिष्टताओं, उनके क्षेत्रीय प्रभाव और समाज पर उनके मनोवैज्ञानिक व नैतिक प्रभावों का वर्णन करता है। यह शोध पत्र यह स्थापित करता है कि लोक संगीत सामुदायिक जीवन की 'रीढ़' के समान है और इसकी शिक्षा को विश्वविद्यालय स्तर पर अनिवार्य किया जाना चाहिए।

कुंजी शब्द : लोक संगीत, मध्य प्रदेश संस्कृति, बुंदेलखंडी, मालवी, निमाड़ी, संगीत शिक्षा, सामाजिक प्रभाव, गायन-वादन।

1. प्रस्तावना

भारतीय संस्कृति में संगीत को केवल कला या मनोरंजन के साधन के रूप में नहीं देखा गया है, बल्कि इसे एक उपासना और जीवन शैली के रूप में स्थापित किया गया है। भारत के हृदय स्थल, मध्य प्रदेश, में संगीत की यह परंपरा और भी अधिक विविधतापूर्ण है। यहाँ प्रत्येक अंचल, चाहे वह राजस्थान की सीमा से लगा हो या छत्तीसगढ़ की, अपनी एक अनूठी 'संगीत भाषा' रखता है। बुंदेलखंड, निमाड़ और मालवा की लोक संगीत शैलियाँ इस राज्य की सांस्कृतिक विविधता का प्रमाण हैं।

संगीत एक ऐसी कला है जो हर व्यक्ति में, चाहे वह छोटे स्वरूप में ही क्यों न हो, विद्यमान रहती है। संगीत केवल विशिष्ट वाद्य यंत्रों तक सीमित नहीं है; यह नाद (Sound) के रूप में किसी भी वस्तु से उत्पन्न किया जा सकता है। यह एक सार्वभौमिक भाषा है जिसे दुनिया का हर व्यक्ति समझ सकता है और महसूस कर सकता है। अतः, मध्य प्रदेश के लोक संगीत का अध्ययन केवल कला का अध्ययन नहीं है, बल्कि वहाँ के सामाजिक, सांस्कृतिक और ऐतिहासिक ताने-बाने को समझने का प्रयास है।

2. लोक संगीत के उद्देश्य एवं कार्य

लोक संगीत के उद्देश्य केवल मनोरंजन तक सीमित नहीं हैं, बल्कि ये समाज की मूलभूत आवश्यकताओं को पूरा करते हैं।

2.1. भावनात्मक और आध्यात्मिक पूर्ति

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लोक संगीत का मुख्य उद्देश्य लोगों की भावनाओं को सही दिशा देना और उन्हें सामूहिक रूप से व्यक्त करना है। यह व्यक्तिगत और सामुदायिक दुःख, प्रेम, करुणा और भक्ति जैसे भावों को प्रकट करने का माध्यम है। इसके अतिरिक्त, संगीत का उपयोग पूजा-पाठ और विभिन्न धार्मिक अनुष्ठानों को पूर्णता प्रदान करने के लिए भी किया जाता है।

2.2. सामाजिक और नैतिक एकीकरण

संगीत का उपयोग गलत प्रवृत्तियों के व्यक्तियों को सही रास्ते पर लाने और समाज में नैतिक चेतना जगाने के लिए भी किया जाता है। सामूहिक गायन और नृत्य सामाजिक दूरियों को मिटाते हैं और लोगों को एक साथ रखकर सामुदायिक एकता (Social Cohesion) को मजबूत करते हैं।

2.3. मनोवैज्ञानिक और चिकित्सीय प्रभाव

लोक संगीत तनाव (Stress) को दूर करने और मानसिक शांति प्रदान करने का एक प्रभावी साधन है। इसका उपयोग याददाश्त में सुधार (Memory Improvement) लाने और भावनाओं को संतुलित रूप से व्यक्त करने के लिए भी किया जाता है, जिससे शारीरिक तथा मानसिक स्वास्थ्य दोनों ठीक रहते हैं।

3. संगीत की संरचना और घटक: एक विश्लेषणात्मक ढाँचा

संगीत का निर्माण तीन मूलभूत और अन्योन्याश्रित (interdependent) चरणों पर आधारित है: गायन, वादन और नृत्य।

3.1. गायन, वादन, और मेरुदंड का रूपक

संगीत की पूर्णता के लिए वाद्य यंत्र (वादन) और गायक (गायन) का समन्वय अत्यंत आवश्यक है। इस संबंध को रीढ़ की हड्डी (मेरुदंड) के रूपक से समझा जा सकता है। जिस प्रकार रीढ़ की हड्डी के बिना मानव शरीर अधूरा है, उसी प्रकार वादन की ताल और लय के बिना गायन और गायन के भाव के बिना वादन अधूरा है। लोक संगीत में, वाद्य यंत्र जैसे ढोलक, नगड़िया या हारमोनियम, 'मेरुदंड' का काम करते हैं, जो गायक को एक स्थिर और मजबूत आधार प्रदान करते हैं। यह संयोजन ही संगीत को श्रवणीय और प्रभावी बनाता है।

3.2. नृत्य का महत्त्व

नृत्य, संगीत का तीसरा और अभिन्न अंग है। यह गायन और वादन को एक दृश्य अभिव्यक्ति (Visual Representation) प्रदान करता है। नृत्य में शारीरिक हाव-भाव और गतिशीलता का समावेश होता है, जो श्रोताओं और दर्शकों पर गहरा भावनात्मक और शारीरिक प्रभाव डालता है। राजा-महाराजाओं के समय से ही नृत्य को प्रोत्साहन मिलता रहा है, जिससे संगीत के आनंद और आकर्षण में वृद्धि हुई है।

4. मध्य प्रदेश की क्षेत्रीय लोक संगीत शैलियों का विश्लेषण

मध्य प्रदेश की भौगोलिक और सांस्कृतिक विविधता उसके लोक संगीत में स्पष्ट रूप से दिखाई देती है:

4.1. बुंदेलखंडी लोक संगीत

सागर, ललितपुर, और छतरपुर जैसे क्षेत्रों में प्रचलित यह संगीत शैली वीरता (वीर रस) के लिए प्रसिद्ध है। **'आल्हा'** गायन यहाँ का मुख्य उदाहरण है, जो सामंती शौर्य और इतिहास की गाथाओं का वर्णन करता है। **'राई'** नृत्य और गीत बुंदेलखंड की पहचान हैं, जो मन को शांत करने और मनोरंजन के लिए प्रयुक्त होते हैं। यहाँ **'नगड़िया'** वाद्य यंत्र का उपयोग अपरिहार्य है, जिसके तीव्र वादन के बिना राई या लोक संगीत का कार्यक्रम अधूरा माना जाता है।

4.2. मालवी लोक संगीत

उज्जैन, रतलाम, धार, और मंदसौर क्षेत्रों का यह संगीत मालवा की सौम्य और भक्तिपूर्ण संस्कृति को दर्शाता है। **'गरबा'**, **'पावड़ा'** और संत सिंगाजी के **'भजन'** यहाँ के मुख्य गीत हैं। यह संगीत त्यौहारों और धार्मिक अवसरों पर गाया जाता है, जो प्रेम, भक्ति और करुणा को प्रकट करता है और समुदाय में सौहार्द बनाए रखता है।

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4.3. निमाड़ी और गोंडी संगीत

- **निमाड़ी लोक संगीत (खंडवा, खरगोन):** यह सीधे कृषि संस्कृति और ग्रामीण जीवन की सरलता से जुड़ा है। निमाड़ी फाग गीत और **'कलगी-तुर्रा'** गायन प्रतिस्पर्धाएँ यहाँ की विशिष्ट पहचान हैं, जिनका उपयोग शुभ कार्यों और विशेष रूप से बसंत ऋतु में खुशी और उल्लास व्यक्त करने के लिए किया जाता है।
- **गोंडी गीत (आदिवासी अंचल):** यह मध्य प्रदेश और छत्तीसगढ़ के आदिवासी क्षेत्रों में विवाह या शुभ कार्य की शुरुआत में बजाया जाने वाला संगीत है, जो प्रकृति और आध्यात्मिकता के साथ गहरे जुड़ाव को प्रदर्शित करता है।

चित्र 1: मध्य प्रदेश के एक गाँव में पारंपरिक वाद्य यंत्रों ढोलक और हारमोनियम के साथ लोक संगीत और नृत्य की प्रस्तुति।

5. अध्ययन की सीमाएँ

संगीत का अध्ययन एक अत्यंत व्यापक क्षेत्र है, जिसकी कोई निश्चित सीमा निर्धारित नहीं की जा सकती। संगीत ज्ञान के उस **समुद्र** के समान है, जिसकी गहराई को मापना लगभग असंभव है। जैसे समुद्र की गहराई में उतरने पर हर स्तर पर नए और अनूठे जीव-जंतु मिलते हैं, उसी प्रकार संगीत की साधना में उतरने पर नए-नए सुर, ताल, मात्राएँ और गायन-वादन की शैलियाँ सामने आती हैं। कोई भी व्यक्ति अपने जीवनकाल में संगीत को पूर्ण रूप से सीख या जान नहीं पाया है, क्योंकि यह एक सतत विकसित होने वाली कला है। इस शोध पत्र में प्रस्तुत विश्लेषण केवल मध्य प्रदेश के लोक संगीत के कुछ प्रमुख आयामों का ही अवलोकन है।

6. शैक्षिक सुझाव

संगीत के सर्वांगीण लाभों को देखते हुए, यह सुझाव दिया जाता है कि इसे वर्तमान शिक्षा प्रणाली में अनिवार्य विषय के रूप में शामिल किया जाए।

6.1. स्कूल स्तर पर अनिवार्यता

- स्कूलों में संगीत की कक्षाएं अनिवार्य रूप से शुरू की जानी चाहिए। यह सुझाव विशेष रूप से उन शैक्षणिक संस्थानों के लिए है जो संगीत को केवल एक मनोरंजन का साधन मानते हैं या इसे गौण महत्त्व देते हैं।
- इससे विद्यार्थियों को बचपन से ही संगीत के महत्त्व और नैतिक मूल्यों का ज्ञान होगा।

6.2. उच्च शिक्षा में संगीत का सशक्तिकरण

- स्कूल स्तर पर संगीत का ज्ञान प्राप्त करने के बाद, विश्वविद्यालय (University) में पहुँचने वाले विद्यार्थी संगीत के प्रति अपनी रचनात्मक भावनाओं को बेहतर ढंग से व्यक्त कर सकेंगे।

- वे न केवल संगीत सीखने के इच्छुक होंगे, बल्कि अपनी संस्कृति के इस महत्त्वपूर्ण अंग को संरक्षित रखने में भी सहायक होंगे, जिससे यह परंपरा लुप्त न हो। संगीत की शिक्षा द्वारा विद्यार्थी भावनात्मक रूप से परिपक्व होंगे और स्वस्थ मानसिक विकास सुनिश्चित होगा।

7. निष्कर्ष (Conclusion)

निष्कर्षतः, संगीत केवल एक शब्द नहीं, बल्कि अनंत कार्यों, प्रभावों और संभावनाओं का नाम है। यह दुनिया के हर कोने में व्याप्त है और अनगिनत ग्रामीण लोगों की धड़कन है। इसका उद्देश्य केवल मनोरंजन नहीं, बल्कि शारीरिक और मानसिक स्वास्थ्य को ठीक रखना, सामाजिक और धार्मिक अनुष्ठानों को पूर्णता प्रदान करना तथा सामुदायिक जीवन में सामंजस्य स्थापित करना है। मध्य प्रदेश का लोक संगीत भारतीय संस्कृति का वह अनमोल खजाना है, जिसे संरक्षित और संवर्धित करने की नितांत आवश्यकता है। यह शोध पत्र यह स्थापित करता है कि लोक संगीत केवल एक प्रदर्शन कला नहीं है, बल्कि यह एक सांस्कृतिक और सामाजिक शक्ति है, जिसके अध्ययन और प्रचार को प्राथमिकता दी जानी चाहिए।

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