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Sustainability in Electronic Banking Industry: A Study with Special Reference to State Bank of India

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Abstract

Sustainability in electronic banking is a broad concept encompassing practices and guidelines that ensure banks operate sustainably across economic, environmental, and social dimensions. It focuses on optimizing banking processes, Information Technology, and physical infrastructure to enhance efficiency while minimizing environmental impact. This research paper is based on a formal study conducted by the author using secondary data, sourced from bank websites and the annual reports of the State Bank of India (SBI). The primary objective of this study is to provide an overview of existing research on banking sustainability and to identify key Green Banking initiatives implemented by SBI.

Keywords: Sustainability, State Bank of India, Green Banking, ATM, Debit Card, Credit Card.

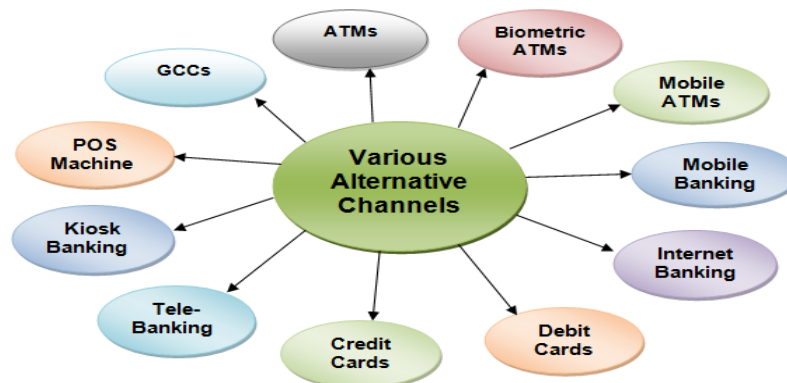
Introduction

The development of the economy and the banking sector are closely interlinked, forming a continuous cycle of mutual dependence. The Industrial Revolution, followed by the Information Revolution, significantly accelerated economic growth. However, this progress often came at the cost of excessive natural resource exploitation, posing a threat to ecological balance. The concept of sustainable development was first introduced by the Brundtland Commission, which defined it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

This research paper is based on a desk study conducted by the authors, utilizing secondary data from published annual reports of the State Bank of India (SBI) and existing literature on banking sustainability. The study focuses on reviewing related literature, outlining the objectives, analyzing SBI's sustainability efforts, and exploring the Green Banking initiatives undertaken by the bank, followed by a conclusive discussion.

Sustainability in Banking Practices

The various alternative channels of offering sustainability in banking practices by the modern banking sector are given in Figure 1.



Methodology

This research paper is based on the formal research undertaken by the author using secondary data. The secondary data are gathered from Bank websites and SBI annual reports. Reviews of notable previous researches in the related field are given below.

Bhardwaj, BrotoRauth and Aarushi Malhotra found "Green Banking" will not only ensure the greening of the industries but it will also facilitate in improving the asset quality of the banks in future. The study focused on the various models of green banking practices adopted by Indian companies to grow. The research showed that the banks which were adopting the green banking practices influence the performance of the organization.

Bahl Sarita in her paper described "Green Banking" as banking conducted in selected area and technique that helps in reduction of internal carbon footprint and external carbon emissions. The research identified the means to create awareness in internal and external sub-systems and impart education to attain sustainable growth through green banking.

Objectives of the Study

The current study is based upon the following objectives:

1. To provide an overview of the researches done relating to banking sustainability
2. To identify the major Green Banking practices of state bank of India

Analysis and Interpretation

State bank of India is one of the largest public sector banks in India. The bank has 22, 414 branches, 51, 616 group ATMs, the bank had more than 190 overseas offices spread over 34 countries with its presence across major financial centres like Frankfurt, London, Hong Kong, New York, Sydney and Tokyo. Apart from its core banking operations SBI deals in a wide range of services including insurance, mutual funds, factoring, investment advisory and asset management. The online transactions of SBI also include, Online Education, Online Home, Online SME, Online Demat, Online Car Loans, USA Patriot Act Certification, SBI Loan for Pensioners, E-Invest (IPO investments, SBI Yuva Card (18-30 years), CAG (Corporate Accounts Group), Cyber Plus and Swarojgar Credit Card etc.

Table: 1 Growth of Branches

S. No	Year	Branches
1	2017-2018	14087
2	2018-2019	14716
3	2019-2020	15779
4	2020-2021	16423
5	2021-2022	16564
6	2022-2023	17320
7	2023-2024	22214
Avg.		16729
CAGR		6.85%

Source: Annual reports of the SBI for seven years.

It is clear from the above table the number of branches which stood at 14,087 in the year 2017-18 and gradually it increased to 22,214 during the year 2023-24. The average growth of SBI branches is 16729. The analysis indicates that the number of branches in state bank of India increased at the Compound Annual Growth Rate (CAGR) of 6.85 per cent per annum.

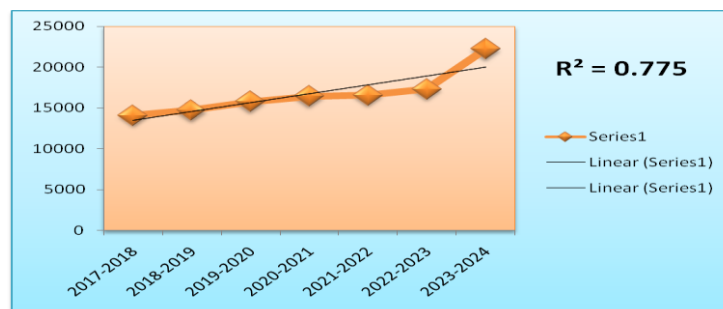


Figure – 1 Linear Trend Line of SBI Branches

The R^2 value (0.775) shows that about 77 per cent variation growth in SBI branches is explained by the time factor (Year) through the linear model.

Table: 2 Growths of Group ATMs

S. No	Year	Group ATMs
1	2017-2018	22647
2	2018-2019	25475
3	2019-2020	43776
4	2020-2021	43657
5	2021-2022	45736
6	2022-2023	44225
7	2023-2024	51719
Avg.		39605
CAGR		12.85%

Source: Annual reports of the SBI for seven years.

Table 2 clearly shows that the number of group ATMs which stood at 22,647 in the year 2017-18 and it increased to 51,719 during the year 2023-24. The average growth of group ATMs is 39,605. The analysis indicates that the number of group ATMs in state bank of India increased at the Compound Annual Growth Rate (CAGR) of 12.85 per cent per annum.

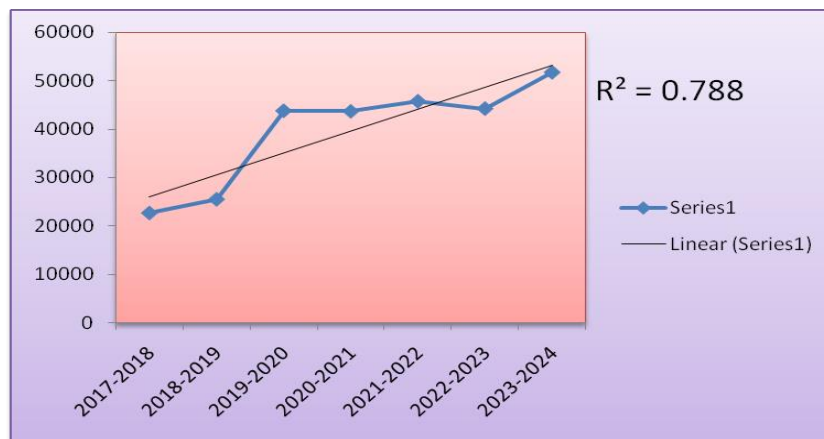


Figure – 2 Linear Trend Line of SBI Group ATMs

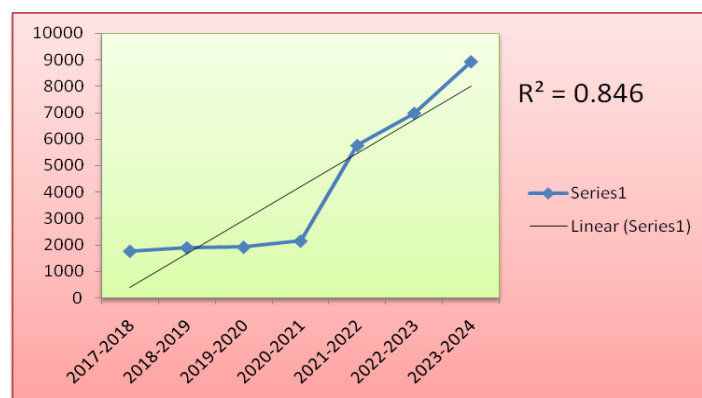
The R^2 value (0.788) shows that about 78 per cent variation growth in group ATMs is explained by the time factor (Year) through the linear model.

Table: 3 Growths of Cash Deposit Machines

S. No	Year	Cash Deposit Machines
1	2017-2018	1765
2	2018-2019	1898
3	2019-2020	1916
4	2020-2021	2149
5	2021-2022	5760
6	2022-2023	6980
7	2023-2024	8925
Avg.		3627.57
CAGR		42.48%

Source: Annual reports of the SBI for seven years.

It is evident from above table it is clear that the number of cash deposit machines which stood at 1765 in the year 2017-18 and it increased to 8925 during the year 2023-24. The analysis indicates that the number of cash deposit machines in state bank of India increased at the Compound Annual Growth Rate (CAGR) of 42.48 per cent per annum.

**Figure – 3 Linear Trend Line of SBI Cash Deposit Machines**

The R^2 value (0.846) shows that about 84 per cent variation growth in cash deposit machines is explained by the time factor (Year) through the linear model.

Table: 4 Growths of Internet Banking Users

S. No	Year	Internet Banking Users (In Lacks)
1	2017-2018	110
2	2018-2019	140
3	2019-2020	197
4	2020-2021	240
5	2021-2022	283

6	2022-2023	347
7	2023-2024	687
Avg.		257.71
CAGR		26.98%

Source: Annual reports of the SBI for seven years.

It is understood from the above table that the number of internet banking users which stood at 110 lacks in the year 2017-18 and it gradually increased to 687 lacks during the year 2023-24. The analysis indicates that the number of internet banking users in state bank of India increased at the Compound Annual Growth Rate (CAGR) of 26.98 per cent per annum.

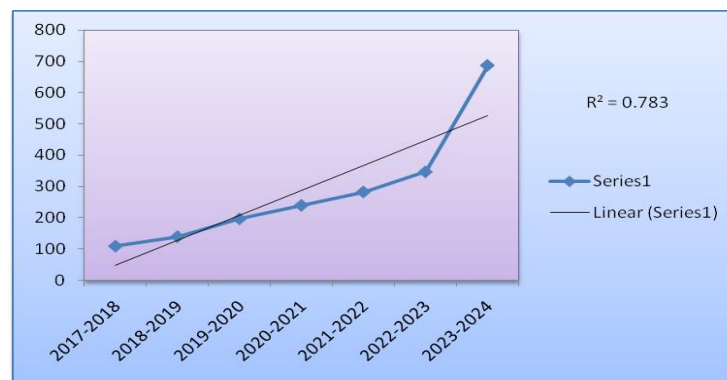


Figure – 4 Linear Trend Line of Internet Banking Users

The R^2 value (0.783) shows that about 78 per cent variation growth in internet banking users is explained by the time factor (Year) through the linear model.

Table: 5 Growths of Mobile Banking Users

S. No	Year	Mobile Banking Users (In Lacks)
1	2017-2018	137
2	2018-2019	162
3	2019-2020	195
4	2020-2021	235
5	2021-2022	277
6	2022-2023	298
7	2023-2024	405
Avg.		244.14
CAGR		35.17%

Source: Annual reports of the SBI for seven years.

It is clearly understood from the above table that the number of mobile banking users which stood at 137 lacks in the year 2017-18 and it gradually increased to 405 lacks during the year 2023-24. The analysis indicates that the number of mobile banking users in state bank of India increased at the Compound Annual Growth Rate (CAGR) of 35.17 per cent per annum.

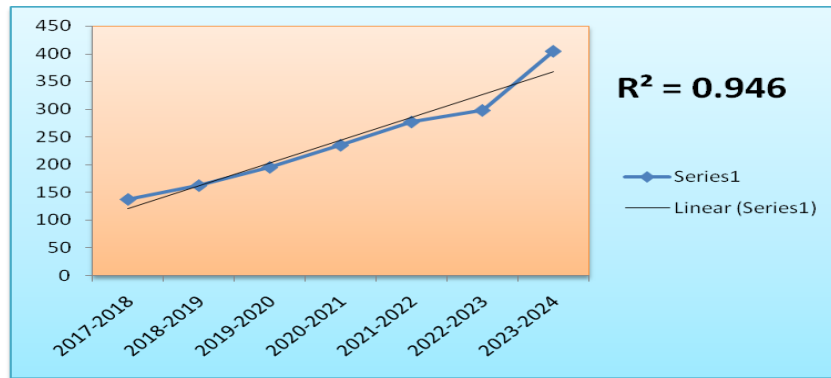


Figure – 5 Linear Trend Line of Mobile Banking Users

The R^2 value (0.946) shows that about 94 per cent variation growth in mobile banking users is explained by the time factor (Year) through the linear model.

Conclusion

The state bank of India becomes extremely conscious of the need to go green and taking efforts to make paperless banking. The greening efforts of bank have been fully supported by technology in terms of electronic fund transfer, ATM, internet and mobile banking. The state bank of India has to adopt more environmental friendly practices and initiatives in their day to day banking operations through ATM, debit card, credit card, online banking and mobile banking. These environmental friendly initiatives enable the state bank of India to contribute much towards maintaining ecological balance. ***Thus, the environmental friendly banking efforts of the state bank of India through reengineering their task performance will not only protects environment and maintain eco balance, but also enhance the operational sustainability and image of the bank.***

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A Study on Evolving Role of Artificial Intelligence in Modern Banking

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Introduction

"The banking industry is on the verge of a revolution, driven by advances in Artificial Intelligence (AI)." - Anand Mahindra, Chairman of Mahindra Group. The banking sector is undergoing a significant transformation, driven by the increasing adoption of AI. As a critical component of a country's financial system, the banking sector provides essential services such as accepting deposits from customers, making loans to customers, facilitating payments between customers, businesses, and governments, and managing risk on behalf of their customers.

This study aims to explore the evolving role of AI in modern banking, examining its applications, benefits, challenges, and future directions. The primary objectives of this study are to identify the current applications of AI in banking, analyze the benefits and challenges of AI adoption in banking, and explore the future directions of AI in banking. Some key aspects of AI in banking that will be explored in this study include AI-powered chatbots and virtual assistants, machine learning algorithms for predictive analytics and risk management, natural language processing for customer service and sentiment analysis, and blockchain and distributed ledger technology for secure and transparent transactions.



By investigating the evolving role of AI in modern banking, this study seeks to provide insights into the opportunities and challenges of AI adoption in banking, and identify areas for future research and innovation. The study will provide a comprehensive overview of the current state of AI in banking, and explore the potential implications of AI adoption for banks, customers, and the broader financial system.

Objectives

- To analyze the concepts of Artificial Intelligence.
- To understand the growth of Artificial Intelligence in banking sector.
- To analyze the benefits and challenges of AI adoption in banking.

History of AI in Banking Sector

The Artificial Intelligence (AI) dates back to the 1950s, when Alan Turing proposed the Turing Test. In the 1970s and 1980s, banks began to experiment with AI technologies, using expert systems to automate decision-making processes. However, AI research experienced a decline in the 1990s, marking the beginning of the "AI winter." In the 2010s, AI research experienced a revival, driven by advances in computing power, data storage, and machine learning algorithms. Banks began to adopt AI technologies more widely, using machine learning algorithms to improve customer experience, enhance operational efficiency, and manage risk. Today, AI is used in banking for predictive analytics, risk management, customer segmentation, and more.

The COVID-19 pandemic has accelerated the adoption of AI in banking, with banks using AI-powered chatbots and virtual assistants to provide customer support and improve operational efficiency. As AI technology continues to evolve, it is likely to play an increasingly important role in the banking sector, enabling banks to provide more personalized and efficient services to their customers.

AI – Changing Face of Banking Sector

Artificial Intelligence (AI) is transforming the banking sector, enabling banks to provide more personalized, efficient, and secure services to their customers. AI-powered chatbots and virtual assistants are revolutionizing customer service, while predictive analytics and machine learning algorithms are improving risk management and operational efficiency. AI is also enabling banks to offer tailored products and services, increasing customer satisfaction and loyalty. Furthermore, AI is

helping banks to automate routine tasks and processes, enhance fraud detection and prevention, improve credit scoring and lending decisions, provide personalized investment advice and portfolio management, and enhance customer engagement and experience through social media and mobile banking.

AI Applications in Banking

Artificial Intelligence (AI) is transforming the banking sector with various applications. Chatbots and virtual assistants are being used to provide 24/7 customer support, helping customers with transactions and queries. Predictive analytics and machine learning are also being utilized to predict customer behavior, manage risk, and provide personalized investment strategies. Additionally, Natural Language Processing (NLP) is being employed to analyze customer sentiment and automate document processing. Furthermore, AI is also being used for fraud detection and prevention, risk management, customer segmentation and personalization, and process automation, ultimately enhancing operational efficiency, improving customer experience, and reducing costs.

AI Revolutionizing the Banking Sector

The banking sector is undergoing a significant transformation, driven by the increasing adoption of Artificial Intelligence (AI). AI is revolutionizing the banking sector by enhancing customer experience, improving operational efficiency, and managing risk. With AI-powered chatbots and virtual assistants, customers can now access banking services 24/7, receiving personalized support and assistance. AI is also automating routine tasks, reducing manual errors, and increasing processing speeds, enabling banks to provide faster and more efficient services. Moreover, AI-powered predictive analytics and machine learning algorithms are helping banks to better manage risk, detect fraudulent transactions, and prevent financial crimes.

Future Improvements

The future of AI in banking looks promising, with several potential improvements on the horizon. One key area of development is the increased adoption of cloud-based AI solutions, which will enable banks to deploy AI applications more quickly and easily. Additionally, there will be a greater use of machine learning and deep learning algorithms, allowing banks to analyze larger datasets and make more accurate predictions. Furthermore, there will be a greater focus on explainability and transparency in AI decision-making, enabling banks to provide more insight into their AI-powered decision-making processes.

Protection Measures of AI in Banking Sector

The protection measures of AI in the banking sector are multifaceted and robust. Advanced threat detection systems, powered by AI, can detect and prevent cyber threats in real-time, reducing the risk of data breaches and financial losses. AI-powered systems can prevent fraudulent transactions by analyzing transactions and detecting suspicious activity. Identity theft protection is also enhanced through AI-powered systems that detect and prevent identity theft by analyzing customer data and detecting anomalies.

- **Advanced Threat Detection:** AI-powered systems can detect and prevent cyber threats in real-time, reducing the risk of data breaches and financial losses.
- **Fraud Prevention:** AI-powered systems can analyze transactions and detect suspicious activity, preventing fraudulent transactions and reducing financial losses.
- **Identity Theft Protection:** AI-powered systems can detect and prevent identity theft by analyzing customer data and detecting anomalies.
- **Data Encryption:** AI-powered systems can encrypt sensitive customer data, protecting it from unauthorized access.
- **Access Control:** AI-powered systems can control access to sensitive data and systems, ensuring that only authorized personnel have access.
- **Anomaly Detection:** AI-powered systems can detect anomalies in customer behavior and transactions, preventing potential security threats.
- **Predictive Maintenance:** AI-powered systems can predict and prevent potential security threats by analyzing system data and detecting potential vulnerabilities.
- **Compliance Monitoring:** AI-powered systems can monitor and ensure compliance with regulatory requirements, reducing the risk of non-compliance.
- **Incident Response:** AI-powered systems can automate incident response, reducing the time and resources required to respond to security incidents.
- **Continuous Monitoring:** AI-powered systems can continuously monitor systems and data, detecting and preventing potential security threats in real-time.

Benefits of AI in Banking Sector

AI-powered chatbots and virtual assistants provide 24/7 customer support, improving customer experience. AI also enhances operational efficiency by automating routine tasks, reducing manual errors, and increasing processing speeds. Additionally, AI-powered predictive analytics and

machine learning algorithms improve risk management, detect cyber threats, and provide personalized services. The adoption of AI reduces costs, provides insights and analytics, and enables data-driven decisions. Ultimately, AI integration leads to improved compliance, identifies new business opportunities, and drives revenue growth.

Challenges Of AI in Banking Sector

The integration of AI in the banking sector poses several challenges, including data quality issues, regulatory compliance, and cybersecurity risks. AI-powered systems can be vulnerable to cyber threats, and their decision-making processes can lack transparency. Additionally, AI can lead to job displacement, bias, and fairness issues if not designed and trained carefully. Banks also face challenges in scaling and integrating AI-powered systems with existing infrastructure, as well as acquiring and retaining top AI talent. Finally, ethical considerations, such as the use of customer data and potential harm to customers, must also be addressed.

Conclusion

The evolving role of Artificial Intelligence (AI) in modern banking has transformed the industry, offering numerous benefits, including enhanced customer experience, improved operational efficiency, and better risk management. AI-powered chatbots, predictive analytics, and machine learning algorithms have revolutionized banking services, enabling banks to provide more personalized, efficient, and secure services. However, the integration of AI in banking also poses significant challenges, including data quality issues, regulatory compliance, cybersecurity risks, and ethical considerations. To fully harness the potential of AI, banks must address these challenges, invest in AI talent and infrastructure, and prioritize transparency, accountability, and customer-centricity. Ultimately, the future of AI in banking looks promising, with potential improvements in cloud-based AI solutions, machine learning, and explainability. As AI continues to evolve, it is likely to play an increasingly important role in shaping the future of the banking industry.

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Influence of Programmatic Advertising on Impulsive Buying Behaviour

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Introduction

Prior to the advent of e-commerce, the marketers used traditional marketing strategies such as print and electronic media to reach people across the globe. The rise of internet in 1990s led to rise of digital marketing. Transformation from traditional meeting to digital marketing driven by technologies provided a new way and means to interact with people. Innovation in technology led to rise of mobile phones, Search Engine Optimisation, artificial intelligence etc. seamlessly contributed to online buying and selling. The emergence of social media and e-commerce platforms embedded with sophisticated technology have considerable influence on the buying behaviour of individuals(Chaffey & Smith, 2022). These platforms link the people spread across geographical area enabling the marketers to provide programmatic advertisements to create product awareness, customer engagement and retention. Programmatic advertisements characterised by algorithms and real time data help the marketers to track online buying behaviour and predict the buying patterns of potential customers. When the customers are exposed to these digital advertisements in the form of banner ads, one time offers, limited period offers etc through numerous digital platforms, it triggers the impulsive buying behaviour(Rook & Fisher, 1995). Impulsive buying behaviour is the unplanned buying which bypass the rational decision making of the individual. The excessive persuasion and compulsion through programmatic advertising induce the people for over consumption and unwanted expenditures(Roberts & Jones, 2001). The current study intends to identify the influence of programmatic advertising on impulsive buying behaviour and resultant financial strain and stress.

Review of Literature

Before the invent of digital marketing strategies marketers heavily relied on print media and electronic media to reach the mass population to disseminate information on various products and service to induce the potential customers to make purchase decisions(Kotler & Keller, 2016). In the first half of 20th century print media was the extensively used source for advertising as it was considered effective in brand recalls and to provide detailed message to the targeted audience(Timothy L. Powers & Julia J. Loyka, 2010). In the mid marketers shifted their focus to

electronic media by which audience were exposed to audio and visual components in advertising (Yaning Luan & K. Sudhir, 2010). The invention of internet and the emergence of digital platforms brought about a drastic change in the way of doing marketing. The use of search engines and the adoption of platforms like Facebook, YouTube etc in digital marketing strategies enable building up of brand communities, real time customer engagement and ultimately customer retention (Tuten & Solomon, 2017). Thus, the extensive use of programmatic advertising using algorithms to deliver personalised advertisement proliferated the unplanned buying behaviour among the people (Lambrecht & Tucker, 2013). The over personalisation contents in digital strategies lead individuals towards irrational buying decisions putting them in over expenditure and financial strain (Frank Huber et al., n.d.).

Research Gap

Programmatic advertising has transformed the way in which potential customers are being targeted and induced to make purchase decisions. A number of studies have taken place regarding the influence of programmatic advertising and its effect on impulsive buying behaviour. However, there is dearth of research on influence audio and visual digital platforms specifically on impulsive buying among individuals. Hence, the current study intends to fill the gap in that research area.

Statement of the Problem

The programmatic advertising has revolutionised the marketing strategies where personalised contents and AI driven technologies enable the marketers to target the potential customers as per their taste and preference (Chaffey & Ellis-Chadwick, 2019). When these digital technologies enhanced the personalisation, efficiency and easiness in doing online transactions it also fosters the impulsive buying characterised by unplanned purchases. Impulsive buying is kind of human behaviour influenced by emotional and psychological factors inducing the individuals to take immediate action without thinking the consequences (Verhagen & van Dolen, 2011). The digital advertisement appearing in various online platforms evoke the impulsive buying behaviour leading to unplanned and spontaneous purchase decisions (Bleier & Eisenbeiss, 2015). Even though impulsive buying provide immediate gratification it lead to financial strain and stress (Sneath et al., 2009). Financial burden arising due to impulsive buying not at all effect the individual but also effect the overall financial and mental well-being of the family. There are numerous research studies on the influence of digital advertising on impulsive buying and it effect on financial well-being of the individuals. However, there is dearth of in-depth study on specifically how audio and visual

platforms influence unplanned buying decisions. Thus, the current study intends to analyse the influence of programmatic advertising on impulsive behaviour and the resultant financial strain among salaried individuals in the Kottayam District, Kerala.

Objectives of the Study

The study is designed to identify and analyse the influence of programmatic advertising on impulsive buying behaviour among salaried individuals belonging to Kottayam District, Kerala and hence the following objectives have been framed for the study:

- To understand the socio-economic and demographic characteristics of the respondents of the study.
- To identify the influence of programmatic advertising on impulsive buying behaviour among respondents of the study
- To analyse the influence of impulsive buying behaviour on financial strain among respondents of the study

Hypothesis

Based on the objectives framed for the study, the following hypothesis has been formulated for testing and further analysis:

H₁: Programmatic advertising has a significant influence on financial strain.

Scope of the Study

The study in a broad sense focuses on the effect of programmatic advertising on impulsive buying behaviour. In a specific sense the study intends to identify the influence of audio and visual platforms on impulsive buying behaviour and how unplanned purchase decisions contribute to financial strain. The study is conducted among salaried individuals in the Kottayam District, Kerala.

Research Methodology

The study intends to identify and analyse the influence of programmatic advertising on impulsive buying behaviour and the resultant financial strain and stress. As the study is conducted among salaried individuals the targeted population constitute the individuals working in public and private sector in Kottayam District, Kerala. Since the study clearly states the nature of targeted population, purposive sampling is adopted to collect data from the identified samples. Purposive sampling is used as it can locate samples, bias free, which in turn increases the trust worthiness of the

findings of the study (Nyimbili Friday & Nyimbili Leah, 2024). A sample of 57 salaried individuals were selected for the study. A sample size greater than 30 and less than 500 is considered to be adequate for research studies (Farhati, 2024; Sekaran & Bougie, 2016). Data were collected from the samples using a pre structured questionnaire. The collected data were analysed with the help of SPSS 25 software. Descriptive Statistics is used to summarize demographic and socio-economic characteristics of respondents. Factor Analysis is employed to identify the influence of programmatic advertising comprising of audio and visual components on impulsive buying behaviour and its influence on financial stability among the respondents.

Analysis and Interpretation

The study attempts to identify the influence of programmatic advertising on impulsive buying behaviour and its influence on financial strain among salaried individuals working in public and private sector in the district of Kottayam, Kerala. Table 1 represents the socio-economic and demographic profile of respondents selected for the study:

Table No: 1 Socio-Economic and Demographic Profile of the Respondents

Variables	Category	Frequency	Percentage
Gender	Male	24	42
	Female	33	58
Education	Plus two/Pre-degree	9	16
	Degree	18	32
	Post graduate/ Professional degree	30	52
Monthly Income	Upto 30,000	27	47
	30,001-40,000	6	11
	40,001-50,000	12	21
	Above 50,000	12	21
Employment Sector	Public sector	21	37
	Private sector	36	63
Time spent on surfing internet	Below 1 hour	3	6
	1-2 hours	24	42
	2-3 hours	15	26
	More than 3 hours	15	26

Computed Data

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) is a statistical technique used to understand the underlying structure of a dataset by identifying clusters of related variables, known as factors. In this study, EFA was conducted to identify the influence of programmatic advertising on impulsive buying behaviour among salaried individual in Kottayam District, Kerala. The analysis include measures of sampling adequacy and factor extraction, ensuring the reliability and validity of the results.

Table No:2 KMO and Bartlett's Test Results for Sampling Adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.625
Bartlett's Test of Sphericity	Approx. Chi-Square	237.626
	df	28
	Sig.	.000

Computed Data

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were conducted to assess the suitability of the dataset for factor analysis. The KMO value of 0.625 indicates moderate sampling adequacy, confirming that the data is appropriate for factor analysis. Bartlett's Test of Sphericity yielded a chi-square value of 237.626 with 28 degrees of freedom and a significance level of $p < 0.001$.

Programmatic Advertising Influencing Impulsive Buying Behaviour

The study intends to separately identify the influence of visual and platforms-based advertising and audio-In app advertising on impulsive buying behaviour.

Table No:3 Programmatic Advertising Influencing Impulsive Buying Behaviour

Rotated Component Matrix ^a		
	Component	
	Visual and Platform-Based Advertising	Audio and In-App Advertisements
I often re purchase the products on seeing ads in the online platforms	.837	
Time sensitive offers such as countdown timers, limited time promotions on various online platforms induce me towards unplanned purchases	.893	

Retargeting ads based upon my purchase history in ecommerce websites (Amazon, Flipkart, Myntra etc) tempt me to go for immediate purchase without any second thought	.826	
Advertisements that appear in mobile applications lead to immediate purchases		.868
Audio advertisements appearing in podcasts and other streaming platforms encourage to take immediate purchase decisions		.928

Computed Data

The Varimax rotation method identified three statements under visual and platforms-based advertising with high loading ranging from 0.826 to 0.893 have a significant influence on the impulsive buying behaviour. Similarly, it identified two statements under Audio and In-App Advertisements with a high loading of 0.868 and 0.928 also have a significant influence on the impulsive buying behaviour. These factors collectively provide a comprehensive understanding of the various factors driving impulsive buying behaviour among salaried individuals belonging to public and private sector in Kottayam district, Kerala.

Reliability Analysis

Reliability analysis ensures the consistency and dependability of a measurement tool. In this study, Cronbach's Alpha was employed to assess the internal consistency of statements measuring impulsive buying behaviour. Cronbach's Alpha values range from 0 to 1, with higher values indicating greater reliability. According to Nunnally (1967) values of 0.60 or above are considered acceptable for exploratory research, with values exceeding 0.70 indicating good reliability and those above 0.8 reflecting excellent reliability. Similarly, Griethuijsen et al. (2015) and Taber (2018) support the use of 0.60 as an acceptable range for social science research. This analysis highlights the consistency and reliability of the measurement scale and its components.

Table No:4 Reliability Analysis of Statements Measuring Impulsive Buying Behaviour and Financial Strain

Factor	Cronbach's Alpha	Number of Items
Overall Reliability (Impulsive Buying Behaviour)	0.778	5
Overall Reliability (Financial Strain)	0.721	3

Computed Data

The reliability analysis of five statements measuring impulsive buying behaviour demonstrates good internal consistency with Cronbach's Alpha of value of 0.778. Similarly, the reliability analysis of three statements measuring financial strain shows good internal consistency with Cronbach's Alpha value of 0.721.

Correlation Analysis

Correlation analysis was conducted to examine the relationship between impulsive buying behaviour and financial strain among salaried individuals. Hence the hypothesis formulated for the same as:

H1: There is significant correlation between impulsive buying behaviour and financial strain.

Table No:5 Correlation between Impulsive Buying Behaviour and Financial Strain

Correlations				
			Impulsive Buying Behaviour	Financial Strain
Kendall's tau_b	IBB_1	Correlation Coefficient	1.000	.449**
		Sig. (2-tailed)	.	.000
		N	57	57
	FS_1	Correlation Coefficient	.449**	1.000
		Sig. (2-tailed)	.000	.
		N	57	57
**. Correlation is significant at the 0.01 level (2-tailed).				

Computed Data

The correlation analysis reveals a **strong positive relationship** between **impulsive buying behaviour** and **financial strain** with a Kendall's tau-b correlation coefficient value of **0.449**, which is statistically significant at the **0.01 level (p = 0.000)**. This result indicates that an increased impulsive buying behaviour significantly contributes to increased financial strain. The findings indicate that impulsive buying behaviour triggered by programmatic advertising contribute to financial strain and stress.

Implications

The current study focussing on the influence of programmatic advertising on impulsive buying behaviour and resultant financial strain contribute to the following implications:

- The marketers have to consider the ethical issues arising on account of relying heavily on personalised digital strategies to attract the customers. They have to deliver informed advertising campaigns rather than triggering impulsive advertising strategies.
- Policy makers and government authorities have to ensure transparency in the programmatic advertisements delivered through online platforms.
- Consumers have to be self-aware about the hidden triggers in programmatic advertisements and educate themselves on how to tackle these strategies. They can leverage the use of digital tools like digital trackers and blockers to put a hold on their online transactions.
- The study leaves further scope for in depth research on long term effect of digital marketing on the financial wellbeing of individuals and how to device strategies to mitigate the same.

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A Study on the Impact of AI among the College Students in Tamil Nadu, India

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Abstract

In today's society, Artificial Intelligence (AI) has significantly contributed to the creation of opportunities across various sectors, including education. By enabling individualized education catered to each student's requirements and learning preferences, this study report thoroughly examines the effects of AI on college students' learning. Artificial Intelligence (AI) has become an integral part of modern education, influencing learning methods, career prospects, and skill development. Tamil Nadu, known for its strong higher education system, is witnessing a rapid transformation in student engagement due to AI-powered tools. This study explores AI's impact on Tamil Nadu's college students, focusing on its role in academics, employment, ethics, and psychological aspects. The findings indicate that while AI enhances learning and career opportunities, it also poses challenges such as ethical concerns and overdependence.

Keywords: Artificial Intelligence, AI-Powered tools, ethics

Introduction

Artificial intelligence (AI) represents the capability of machines and computer systems to carry out functions that typically require human intellect. This encompasses voice recognition, natural language understanding, decision-making, and machine learning. AI also employs intricate algorithms and mathematical models to evaluate vast quantities of data and identify patterns, allowing machines to learn and enhance their performance over time. However, that is just the beginning. The true potential of this technology lies in its ability to revolutionize our understanding of various concepts. It assists us in refining everyday activities, grants us access to innovations we previously thought impossible, and significantly enhances numerous sectors, including education. It is a fact that the topic of artificial intelligence in education often comes with misconceptions and worries about it replacing teachers or diminishing human connections. Nonetheless, it is essential to understand that AI is designed not to substitute educators but to augment and improve their capabilities. By taking care of repetitive tasks and providing real-time data insights, AI tools allow teachers to concentrate on their strengths: offering guidance, emotional support, and nurturing creativity and critical thinking in their students. However, AI can serve as a significant asset that, when utilized correctly, can greatly enhance education. Rather than shying away from it or perpetuating myths, we should welcome its potential and investigate how it can enhance our teaching and learning experiences.

Through the use of personalised learning algorithms, AI has the potential to revolutionise education by streamlining the teaching and learning process. AI can better customise instructional materials to meet the needs of each individual student by determining their strengths and shortcomings. Without ever leaving the classroom, virtual reality experiences could be developed to interact with students from other countries or to show off historical sites that would have caused undue ecological harm if used in the past. This would give students an interactive learning environment that would help them retain more information.

AI-powered augmented reality technology promises to provide students a more engaging educational experience by enabling them to engage with virtual things in ways that were before unattainable. Using smartphones or other devices to project real-time information onto what people see around them on smart boards or screens in classrooms creates new immersive experiences that revolutionise the way people efficiently communicate knowledge.

Artificial Intelligence is revolutionizing various sectors, including education. AI-powered applications such as virtual assistants, automated grading systems, and personalized learning platforms have significantly influenced student learning. Tamil Nadu, home to renowned institutions like the Indian Institute of Technology Madras (IIT-M), Anna University, and other reputed engineering and arts colleges, is experiencing a shift towards AI-driven education.

The widespread availability of AI-based educational tools such as ChatGPT, Google Bard, and AI-powered coding assistants like GitHub Copilot has changed how students access information, complete assignments, and enhance their skills. This study investigates how AI impacts Tamil Nadu's college students academically, professionally, and psychologically.

Statement of Problem

The rapid adoption of AI in Tamil Nadu's higher education sector is transforming learning, skill development, and career opportunities for college students. While AI-powered tools enhance academic performance and job prospects, they also raise concerns about over-reliance, plagiarism, and declining critical thinking skills. Additionally, AI-driven automation creates uncertainty in employment, particularly for non-technical students. This study aims to analyze AI's benefits and challenges, addressing ethical concerns and proposing strategies for responsible AI integration in higher education.

Objectives of the Study

1. To analyze the role of AI in academic learning
2. To assess the impact of AI on college students
3. To evaluate career opportunities and challenges related to AI

AI in Academic Learning

AI-driven tools have transformed the traditional education system by making learning more interactive and efficient. Some of the major ways AI has influenced academic learning among Tamil Nadu's college students include:

1. AI-Powered Learning Platforms

Platforms like Coursera, Udemy, edX, and Khan Academy use AI to personalize learning experiences, recommending courses and materials based on a student's progress. Several universities in Tamil Nadu have integrated these platforms into their curriculum, allowing students to supplement classroom learning with online courses.

2. Smart Tutoring Systems

AI-based tutoring systems such as Carnegie Learning and Brainly assist students in understanding complex subjects. These tools provide step-by-step explanations, making difficult topics easier to grasp. For Tamil Nadu students preparing for competitive exams like GATE, UPSC, and NEET, AI-driven platforms like Embibe and Unacademy have become indispensable.

3. Automated Grading and Feedback

Professors and lecturers in Tamil Nadu's universities increasingly use AI-powered grading tools to assess assignments and provide instant feedback. This has significantly reduced the burden on faculty and ensured timely evaluation of students' performance.

AI and Skill Development

AI's impact is not limited to academics; it also plays a crucial role in upskilling students and preparing them for the job market.

1. AI in Technical Skill Enhancement

AI is transforming industries such as software development, data science, and automation. College students in Tamil Nadu are increasingly learning AI-related skills such as machine learning, deep learning, and natural language processing through platforms like TensorFlow, PyTorch, and OpenAI's APIs.

2. AI-Powered Career Guidance

AI-driven career counseling tools like LinkedIn Learning and Glassdoor use data analytics to recommend suitable career paths based on students' skills and interests. Tamil Nadu's universities are incorporating these AI-powered career assessment tools to help students make informed decisions about their future.

Career Opportunities and Challenges

AI has created numerous job opportunities for graduates, but it has also raised concerns about job displacement.

1. Increased Demand for AI Professionals

Tamil Nadu's IT sector, especially in cities like Chennai and Coimbatore, has witnessed a surge in demand for AI professionals. Companies such as TCS, Infosys, and Zoho actively recruit AI-skilled graduates for roles in data science, automation, and AI development.

2. The Threat of Job Displacement

With AI automating repetitive tasks, concerns over job losses are growing. Many Tamil Nadu students fear that AI-driven automation may replace traditional roles, making it essential to continuously upskill and adapt to the evolving job market.

Ethical and Psychological Impact of AI

While AI offers numerous advantages, it also brings ethical and psychological challenges that need attention.

1. Ethical Concerns: Plagiarism and Academic Dishonesty

AI tools such as ChatGPT enable students to generate essays and research papers effortlessly. This has raised concerns over academic integrity, as plagiarism and cheating have become more prevalent. Colleges in Tamil Nadu are now implementing AI-based plagiarism detection tools like Turnitin to ensure fair academic practices.

2. Data Privacy Issues

AI-driven applications collect vast amounts of user data. Many students use AI-powered educational tools without being fully aware of data privacy risks. Institutions need to educate students on safeguarding their personal information while using AI platforms.

3. Over-Reliance on AI and Mental Health

AI has made learning more convenient, but excessive dependence on AI tools may hinder critical thinking and problem-solving skills. Additionally, the pressure to keep up with AI-driven advancements can lead to stress and anxiety among students.

Findings and Suggestions

Government and Institutional Initiatives

The Tamil Nadu government and various universities are taking steps to ensure AI is used responsibly in education.

1. AI in Higher Education Policies

The Tamil Nadu government has introduced AI-focused initiatives in universities, promoting AI literacy among students. Institutions like Anna University and PSG College of Technology have started offering specialized AI and machine learning courses to prepare students for the AI-driven job market.

2. AI Research and Development

IIT Madras has established research centers dedicated to AI innovation, encouraging students to engage in AI-based research projects. Government-backed initiatives like the Tamil Nadu AI Mission (TNAIM) aim to promote AI adoption while addressing ethical concerns.

Recommendations

To ensure AI is used effectively in Tamil Nadu's higher education sector, the following measures should be taken:

1. **AI Literacy Programs:** Colleges should introduce mandatory AI literacy programs to educate students on responsible AI usage.
2. **Ethical AI Policies:** Institutions must implement strict guidelines to prevent plagiarism and misuse of AI in academics.
3. **Mental Health Support:** Universities should provide counseling and workshops to help students manage stress related to AI-driven learning and job competition.
4. **Skill Development Initiatives:** AI-based training programs should be integrated into college curricula to enhance employability.

Conclusion

AI is significantly transforming the education landscape in Tamil Nadu, offering both opportunities and challenges for college students. While it enhances learning, skill development, and career prospects, ethical concerns and overdependence on AI must be addressed. By implementing responsible AI policies and fostering AI literacy, Tamil Nadu's institutions can ensure that students benefit from AI while maintaining academic integrity and mental well-being.

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A Study on AI-Driven Customization and its Alignment with Consumer Preferences

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Abstract

Artificial Intelligence (AI) has revolutionized product and service customization, enabling businesses to tailor offerings based on consumer preferences. This study explores AI-driven customization, examining its effectiveness in aligning with individual consumer needs and expectations. By analyzing machine learning algorithms, recommendation systems, and predictive analytics, the research highlights how AI personalizes user experiences across industries such as e-commerce, entertainment, and healthcare. The study also addresses consumer perceptions, trust, and ethical considerations in AI-driven personalization. Findings suggest that while AI enhances consumer satisfaction and engagement, concerns regarding data privacy and algorithmic bias remain significant. The paper concludes with recommendations for optimizing AI-driven customization to balance personalization with ethical responsibility.

Introduction

In today's digital economy, AI-driven customization is revolutionizing consumer experiences by delivering highly personalized interactions. Businesses leverage AI to analyze vast datasets ranging from browsing behavior to purchasing patterns allowing for tailored recommendations, dynamic content, and targeted marketing. This level of personalization enhances engagement, boosts satisfaction, and fosters brand loyalty. However, while AI's ability to predict and align with consumer preferences is powerful, concerns about privacy, ethical implications, and over-personalization remain significant. The challenge lies in striking a balance ensuring AI-generated experiences feel relevant and seamless rather than invasive. This research examines the complex interplay between AI-driven personalization and consumer preferences, evaluating its effects on consumer engagement, trust, and purchasing decisions. By addressing both the opportunities and challenges, this research provides insights into optimizing AI-powered interactions, ensuring businesses deliver meaningful, ethical, and consumer centric personalization strategies in an increasingly AI-driven marketplace.

Statement of the Problem

Artificial Intelligence (AI)-driven customization has become an integral part of modern consumer experiences, influencing purchasing decisions through personalized recommendations,

targeted advertisements, and automated assistance. While AI aims to enhance consumer satisfaction by offering tailored suggestions, there is a growing need to assess whether these customizations truly align with consumer preferences.

Despite the advantages of AI-driven personalization, concerns regarding its accuracy, data privacy, and the extent of its influence on consumer choices remain. Consumers may experience both convenience and frustration, depending on the relevance of AI-generated recommendations. Additionally, the level of trust consumers place in AI-driven customization can impact their engagement and purchasing behavior. This research investigates the alignment between AI-driven customization and consumer preferences, identifies key drivers of consumer trust in AI, and examines the influence of AI personalization on consumer purchasing behavior.

Objectives

- To measure consumer satisfaction regarding AI-driven tools and their effectiveness in enhancing the shopping experience.
- To assess the impact of AI-driven customization on consumer buying behavior, including purchasing decisions, brand loyalty, and impulse buying.
- To identify Key factors that influence consumers` willingness to adopt AI-driven tools, such as ease of use, personalization accuracy, and trust in AI recommendations
- To examine the challenges consumers face while using AI-driven tools, including concerns related to privacy, accuracy, and lack of human interaction.

Scope of the Study

This research explores how AI-powered personalization shapes consumer preference and purchasing patterns. AI-driven customization includes tools such as personalized product recommendations, AI-powered customer support, and targeted advertisements that adapt to individual consumer needs and preferences.

The scope of this research is limited to consumers in Madurai with a sample size of 170 respondents, selected through the Purposive sampling method. The study examines how AI-driven tools influence consumer decision-making, satisfaction, and trust while also identifying challenges faced in using these technologies. By focusing on this specific geographic area and demographic, the

research provides insights into localized consumer behavior and their interaction with AI-driven personalization in shopping experiences.

Review of Literature

1. **Patel, R., & Sharma, K. (2022).** *"AI-Enabled Chatbots: Enhancing Customer Experience in Online Retail."* This study explores the effectiveness of AI-powered chatbots in providing personalized assistance to online shoppers. Using qualitative and quantitative methods, the research highlights how AI-driven chatbots enhance user engagement, reduce response time, and improve customer satisfaction. Findings indicate that 60% of respondents prefer AI chatbots for quick queries, while 40% still favor human interaction for complex issues. The study also identifies privacy concerns and chatbot accuracy as key challenges in AI-driven retail personalization.
2. **Smith, J., & Brown, K. (2023).** *"AI-Driven Personalization in E-commerce: A Customer-Centric Approach."* This study implies how AI-driven content personalization influences consumer behavior and purchasing decisions. Findings indicate that tailored recommendations improve user engagement by 35%, while personalized promotions lead to a 20% increase in conversion rates. The study highlights the effectiveness of AI-powered recommendation systems in enhancing the shopping experience through dynamic and adaptive content delivery.
3. **Gupta & Bansal (2023)** in their study, *"The AI Advantage: Assessing Personalization Effects on E-commerce Shopping Behaviors"*, found that AI personalization enhances click-through rates and conversion rates, particularly among millennial shoppers. However, their research also warns of over-personalization risks, where excessive AI-driven recommendations may feel intrusive to customers.
4. **S. Thandayuthapani, P. Thirumoorthi, P. Elantheraiyan, Leena Jenefa, M. Selvakumar (2024)** in their study *"An Explorations of Consumer Engagement Strategies Through the Lens of Artificial Intelligence in Marketing Personalization"*, This study examines the role of Artificial Intelligence (AI) in transforming marketing personalization through consumer engagement strategies. The research applies consumer involvement theory to assess how AI-driven personalization enhances marketing effectiveness. AI leverages customer data and past interactions to create tailored messaging and increase engagement.

5. **Tanawat Teepapal** (2024) *“AI-Driven Personalization: Unraveling Consumer Perceptions in Social Media Engagement”* This study evaluates the impact of AI-enabled personalization on consumer engagement in social media marketing. Using the Stimulus-Organism-Response (S-O-R) model, the research examines how AI-driven personalization influences consumer trust, privacy concerns, and perceived usefulness, ultimately affecting engagement levels.
6. **Ambarish G. Mohapatra, Anita Mohanty, Subrat Kumar Mohanty, Nitaigour Premchand Mahalik, and Sasmita Nayak** (2024), in their study *“Personalization and Customer Experience in the Era of Data-Driven Marketing”*, This study analyze the significance of personalization and the customer experience in modern data-driven marketing strategies. With businesses leveraging data analytics and AI technologies, this research examines how consumer data is used to create tailored marketing campaigns that enhance customer engagement and satisfaction.
7. **Hewawasam P. G. D. Wijethilak, Sandeep Kumar Singh, and Shivani Dhand** (2025), in their study *“AI for Personalizing Customer Interactions: Improving Engagement and Satisfaction”*, This study explores the transformative impact of Artificial Intelligence (AI) on personalizing customer interactions. It examines key AI technologies such as machine learning, natural language processing (NLP), and predictive analytics, assessing how these tools enhance engagement and satisfaction in digital marketing.
8. **Amil, Yasmine** (2024), *“The Impact of AI-Driven Personalization Tools on Privacy Concerns and Consumer Trust in E-commerce”* This study investigates the impact of AI-driven personalization tools on consumer privacy concerns and trust in e-commerce. While AI-powered recommendation systems enhance customer satisfaction and loyalty, their reliance on vast amounts of personal data raises significant privacy concerns.

Analysis and Interpretation

This section examines the collected data to uncover key patterns and trends regarding AI-driven customization and its influence on consumer preferences. This analysis bridges research objectives with real-world consumer experiences, offering a comprehensive understanding of AI-driven customization's effectiveness. This study has used various statistical methods like Chi-Square, Independent Sample T-Test, One-Way ANOVA, and Garrett Ranking.

Demographic Representation

Gender of the Respondents

The gender distribution of respondents helps identify demographic patterns and provides insight into potential. This analysis provides insights into how different gender groups interact with AI-based recommendations and the extent to which these influence their purchasing decisions.

Table 6.1 Gender of the Respondents

S. No	Gender	Number Of Respondents	Percentage
1	Male	70	41.2
2	Female	100	58.8
	Total	170	100

Source: Primary Data

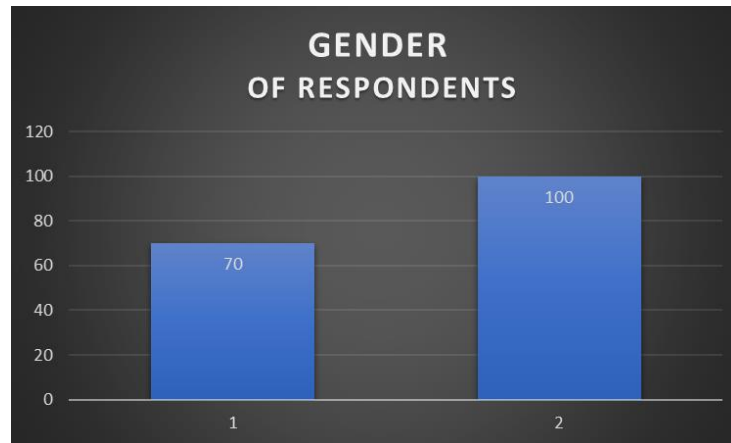


Figure 6.1

Table 6.1 indicates that a higher proportion of participants in the study are female, comprising 58.8% (100 respondents), while 41.2% (70 respondents) are male. This suggests that females may have a greater engagement or interest in AI-driven customization in shopping. The findings provide insights into potential gender-based differences in AI adoption

Age of the Respondents

The age distribution of respondents helps analyze how different age groups interact with AI-driven customization and its impact on consumer preferences. This data provides insights into which age segments are more likely to engage with AI-based recommendations and how personalization influences their shopping behavior.

Table 6.2 Age of The Respondents

S. No	Age	Number of Respondents	Percentage
1	18-24	56	32.9
2	24-34	41	24.1
3	35-44	58	34.1
4	45-54	7	4.1
5	Above 55	8	4.7
	Total	170	100

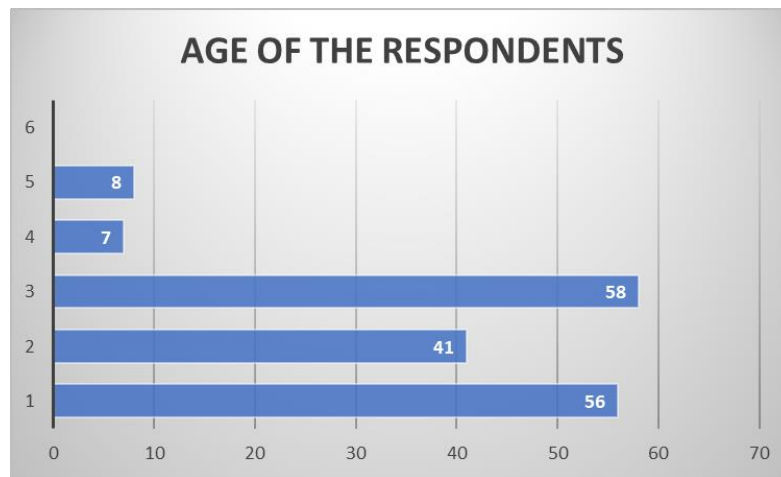
Source: Primary Data**Figure 6.2**

Table 6.2 illustrates the age distribution of the respondents, with the highest percentage (34.1%) belonging to the 35-44 age group. The 18-24 age category follows closely at 32.9%, indicating a significant representation of younger consumers. Respondents aged 25-34 make up 24.1%, while older age groups show lower participation, with 4.1% in the 45-54 category and 4.7% aged 55 and above. This distribution suggests that AI-driven customization is more widely used among younger and middle-aged consumers, with relatively lower engagement from older age groups.

Occupation of the Respondents

The occupational background of respondents helps understand how different professional groups interact with AI-driven customization. It provides insights into their preferences, shopping behavior, and the extent to which AI influences their purchasing decisions.

Table 6.3 Occupation of the Respondents

S. No	Occupation	Number of Respondents	Percentage
1	Working Professional	56	32.9
2	Students	54	31.8
3	Entrepreneurs	39	22.9
4	Homemakers	19	11.2
5	Retired	2	1.2
	Total	170	100

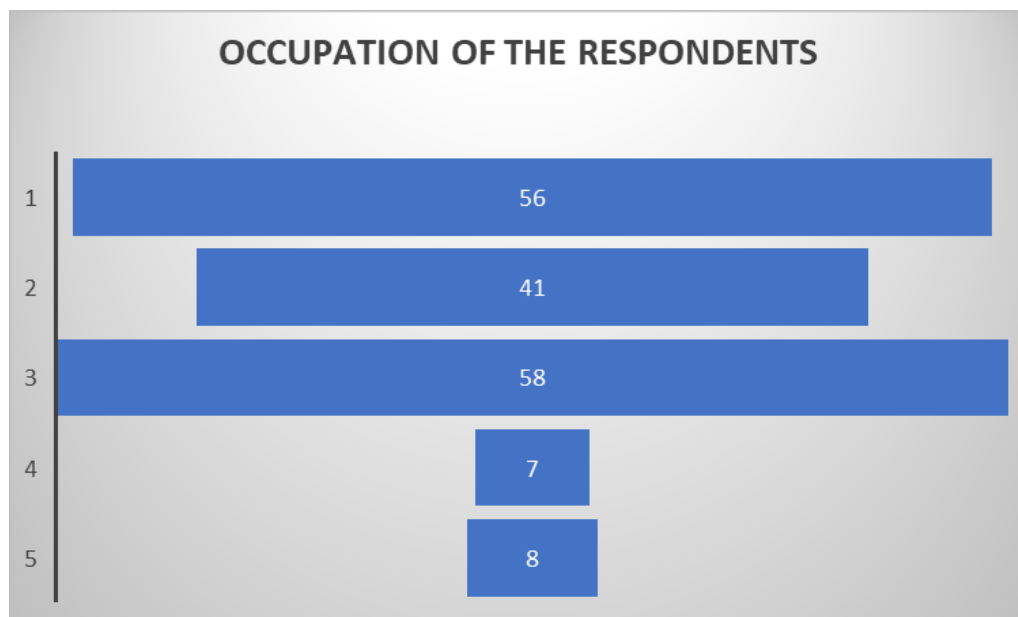
Source: Primary Data**Figure 6.3**

Table 6.3 presents the occupational distribution of the respondents. Working professionals form the largest group, comprising 32.9% of the total sample, followed closely by Students at 31.8%. Entrepreneurs account for 22.9% of the respondents, indicating a considerable representation of business owners. Homemakers make up 11.2%, while retired individuals constitute the smallest group at 1.2%. This distribution highlights that AI-driven customization is relevant across various occupational segments, with students and professionals being the primary users.

Income of the Respondents

The income distribution of respondents provides valuable insights into their purchasing power and spending behavior. Understanding income levels helps assess how financial capacity influences engagement with AI-driven customization and personalized shopping experiences.

Table 6.3 income of the Respondents

S. No	Income	Number of Respondents	Percentage
1	Below Rs 10,000	51	29
2	10001-20000	8	4.7
3	20001-30000	41	24.1
4	30001-40000	51	31
5	Above Rs 40,000	19	11.2
	Total	170	100

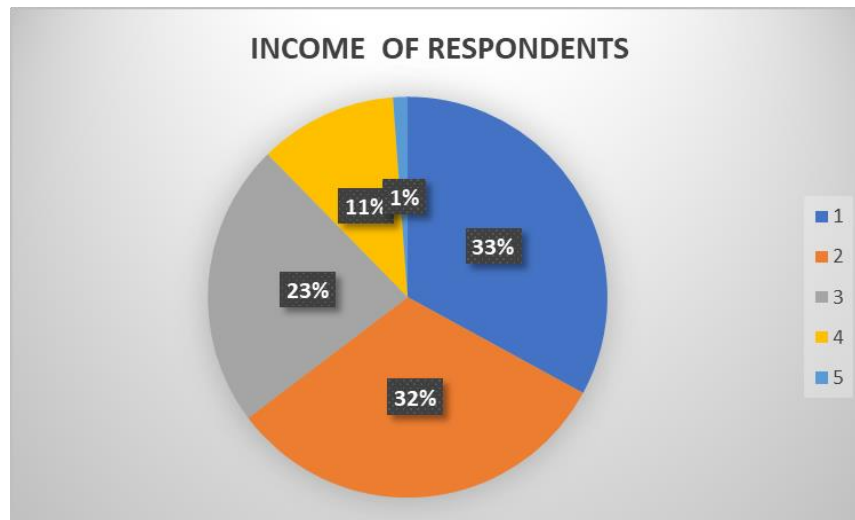
Source: Primary Data**Figure 6.4**

Table 6.4 presents the income distribution of the respondents, highlighting diverse financial backgrounds that may influence their interaction with AI-driven customization. The largest group (31%) falls within the Rs 30,001–Rs 40,000 income range, followed by 29% earning below Rs 10,000. Additionally, 24.1% belong to the Rs 20,001–Rs 30,000 bracket, while 11.2% earn above Rs 40,000. A smaller proportion (4.7%) falls within the Rs 10,001–Rs 20,000 range. This distribution offers valuable insights into how income levels may impact consumer engagement with AI-driven recommendations and purchasing behavior.

One – Way ANOVA

One-way ANOVA, or analysis of variance, is a statistical test used to compare the means of two or more groups. The test helps researchers determine if there is enough evidence to reject the null hypothesis of equal means across all groups.

Purpose: To Find Out the Impact of AI-Driven Customization on Purchasing Decisions Across Age Groups

Hypothesis:

H0: There is no significant difference between the impact of AI-driven customization on purchasing decisions across age groups.

H1: There is a significant difference between the impact of AI-driven customization on purchasing decisions across age groups.

Table 6.5.1

Significant Difference Between Impact of AI-Driven Customization on Purchasing Decisions Across Age Group

Source of Variation	Sum of Number	Df	Mean Square	F	Sig
Between Groups	9.624	4	2.406	2.327	0.058
Within Groups	170.588	165	1.034		
Total	180.212	169			

Source: Primary Data

Table 6.5.1 shows a p-value of 0.058, which exceeds the significance level of 0.05. As a result, we reject the alternative hypothesis and accept the null hypothesis. This indicates that there is no significant relationship between AI-driven customization and purchasing decisions across different age groups. Therefore, the findings suggest that tailored suggestions and advertisements do not significantly impact respondents' spending behavior on shopping apps

Independent Sample T-Test

The independent samples t-test is used to compare two sample means from unrelated groups. This means that there are different people providing scores for each group.

To Find Out the Difference Between Gender and Trust in AI-Driven Tools Hindered by Challenges

Hypothesis:

H0: There is no significant difference between gender and Trust in AI-driven tools hindered by challenges.

H1: There is a significant difference between gender and Trust in AI-driven tools hindered by challenges.

Table 6.6.1
Significant Difference Between Gender and Trust in AI-Driven Tools Hindered by Challenges.

Particulars	Levine's Test for Equality of Variance			T Test for Equality of Means	
	F	Sig	T	Df	Sig [2 Tailed]
Equal Variances Assumed	5.981	0.015	-0.608	168	0.554
Equal Variances Not Assumed			-0.586	128.661	0.559

Source: Primary Data

Table 6.6.1 presents the analysis of the relationship between gender and trust in AI-driven tools due to challenges like lack of transparency or irrelevant suggestions using an independent t-test. The purpose of the test is to assess whether gender significantly influences trust in AI-driven tools. The obtained p-value of 0.554 exceeds the standard significance level of 0.05, leading us to fail to reject the null hypothesis. Thus, we accept the null hypothesis and conclude that gender does not significantly impact trust in AI-driven tools due to challenges like lack of transparency or irrelevant suggestions.

Chi – Square

The Chi-square test is a statistical method used to determine whether there is a significant association between two categorical variables.

Significant Association Between Gender and Measuring Customer Satisfaction

In the chi-square statistical analysis, we aimed to determine whether there is a significant association between gender and customer satisfaction levels. This analysis helps identify whether individuals of different genders are more or less likely to report varying levels of satisfaction.

Hypothesis

H0: There is no significant association between gender and customer satisfaction levels.

H1: There is a significant association between gender and customer satisfaction levels.

Table 6.7.1
Significant Difference Between Gender and Measuring Customer Satisfaction

Particulars	Value	Df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	27.780	22	0.183
Likelihood Ratio	34.272	22	0.046
Linear-By-Linear Association	0.031	1	0.860
No of Valid Cases	170		

Source: Primary Data

Table 6.7.1 illustrates the p-value for the Pearson Chi-Square test is 0.183, which is greater than 0.05, indicating that there is no statistically significant association between the variables. This suggests that the observed differences are likely due to chance, and the null hypothesis is retained.

However, the Likelihood Ratio test shows a p-value of 0.046, which, is slightly below 0.05, suggesting a weak statistical significance. This indicates that while there may be some relationship between the variables, it is not strongly supported across all tests.

The Linear-by-Linear Association test yields a p-value of 0.860, confirming that, there is no significant linear trend between the variables. Therefore, overall, the results suggest that AI-driven customization and the analyzed demographic factor do not exhibit a strong relationship.

Garrett Ranking

Garrett's Ranking technique provides the change of orders of problems into numerical scores. The advantage of this fashion is that the problem are arranged grounded on their inflexibility from the point of view of replies.

Analysis of the Challenges Faced in Using AI-Driven Tools

Table 6.8.1
Challenges Faced in Using AI- Driven Tools

S. No	Particulars	Total Score	Garrett Mean Score	Mean Rank
1.	Lack of Accuracy In Recommendations	9761	57.41	1

2.	Difficulty in Understanding AI-Driven Tools	9051	53.24	4
3.	Lack of Human Interaction in Service	9054	53.25	3
4.	Privacy And Security Concerns	9439	55.52	2
5.	High Dependence on Data Availability	8759	51.52	5
6.	Errors Or Biases in AI Algorithms	8635	50.79	6
7	Limited Customization Options	8117	47.74	7
8	Difficulty In Modifying Ai-Generated Suggestions	7658	45.64	9
9	Inconsistent AI Recommendations across Platform	7370	43.35	8
10	Slow Response Time or Lag in AI-Driven Tools	6943	40.84	10

Source: Primary Data

Table 6.8.1 highlights the Garrett ranking of highest-ranked challenge, **lack of accuracy in recommendations** (Mean Score: 57.41), indicates that many users feel AI-driven suggestions are not precise or relevant to their needs. **Privacy and security concerns** (Mean Score: 55.52) rank second, highlighting the growing apprehension regarding data collection, storage, and security risks.

Additionally, the **lack of human interaction in AI-driven services** (Mean Score: 53.25) ranks third, suggesting that while AI offers convenience, users still value human assistance in certain aspects of decision-making. The **difficulty in understanding AI-driven tools** (Mean Score: 53.24) ranks fourth.

Other notable challenges include **high dependence on data availability** (Mean Score: 51.52), **errors or biases in AI algorithms** (Mean Score: 50.79), and **limited customization options** (Mean Score: 47.74), which point to the need for more adaptable and unbiased AI systems.

Lower-ranked concerns, such as **difficulty in modifying AI-generated suggestions** and **inconsistent AI recommendations across platforms**, indicate that while these issues exist, they are not as pressing compared to accuracy and privacy concerns. **Slow response time or lag in AI-driven tools**, ranking last, suggests that while responsiveness is a factor.

Findings

- The **majority of respondents** (34.1%) belong to the 35-44 age group, followed by 32.9% in the 18-24 age category and 24.1% in the 25-34 age group. A smaller percentage of respondents fall into the 45-54 age group (4.1%), while 4.7% are above 55 years old.
- In terms of **gender distribution**, 58.8% of the respondents are female, while 41.2% are male. □
- Regarding **occupation**, 32.9% of respondents are students, while 31.8% are working professionals. Additionally, 22.9% are entrepreneurs, 11.2% are homemakers, and 1.2% are retired individuals.
- When considering **income levels**, 31% of respondents earn between Rs 30,001 and Rs 40,000, followed by 29% who earn below Rs 10,000. Furthermore, 24.1% fall within the Rs 20,001- Rs 30,000 income bracket, 11.2% earn above Rs 40,000, and 4.7% have an income between Rs 10,001 and Rs 20,000.
- AI-driven tool **usage frequency** varies among respondents, with 41.8% using them on a monthly basis, 25.5% using them daily, and 20.6% using them weekly. Additionally, 11.2% use AI-driven tools rarely, while only 1.2% never use them.
- When analyzing AI-driven tools' influence on **purchasing behavior**, 48.8% of respondents are most influenced by chatbots and virtual assistants. Meanwhile, 21.2% prefer personalized product recommendations, 16.5% are influenced by AI-driven social media ads, and 13.5% rely on AI-powered customer support.
- When analyzing the influence of AI-driven tools on **purchasing decisions**, 35.9% of respondents reported that they are sometimes influenced, while 32.4% stated they are always influenced. Additionally, 24.7% are often influenced, whereas 5.3% are rarely influenced, and 1.8% are never influenced by AI-driven recommendations.
- Regarding the impact of AI-driven recommendations on **brand loyalty**, 39.4% of respondents indicated a moderate impact, followed by 24.7% who reported a slight impact. Furthermore, 19.4% experienced a very high impact, 11.8% reported a high impact, and 4.7% stated that AI-driven recommendations had no impact on their brand loyalty.
- The Garrett ranking analysis reveals **challenges** that the lack of accuracy in recommendations is the most significant concern among consumers, with a mean score of 57.41%. This is followed by privacy and security concerns, which ranked second with a mean score of 55.52%. Finally, the lack of human interaction in service was ranked third, with a mean score of 53.25%.

Suggestions

- The company should clearly explain how AI collects and processes data, giving users control over privacy settings to build trust.
- The AI company should refine recommendations based on user interactions, ensuring relevance and accuracy.
- The company should educate customers on how AI-driven customization works and highlight its benefits to encourage adoption.
- The AI company should combine with human assistance in customer service to increase confidence in AI-driven tools.

Conclusion

Personalized experiences powered by AI significantly influence consumer actions, driving loyalty and motivation through tailored suggestions, streamlined interactions, and heightened involvement. While it positively influences impulse purchases, brand loyalty, and decision-making, concerns about privacy, data security, accuracy, and the lack of human interaction remain key challenges. Consumer trust and adaptability are crucial for the widespread acceptance of AI-powered tools. To improve overall satisfaction, businesses must prioritize transparency, refine AI accuracy, and offer users greater control over AI-generated suggestions.

As AI continues to advance, it will become even more integrated into daily life, transforming industries, streamlining processes, and augmenting human capabilities. The future beyond AI will likely see the rise of even more intelligent and autonomous systems, reshaping how we work, interact, and make decisions. However, maintaining a balance between automation and human touch will be essential for sustaining trust and engagement. **“AI can augment our own intelligence, helping us to make better decisions and achieve more than we ever could alone.”** – Andrew Ng

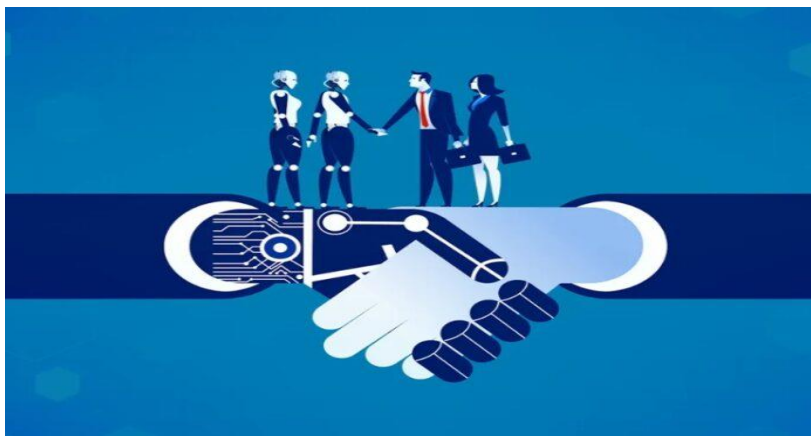
Artificial Intelligence in Advertising

K. Priyadharshini¹ and R. Karthiga¹

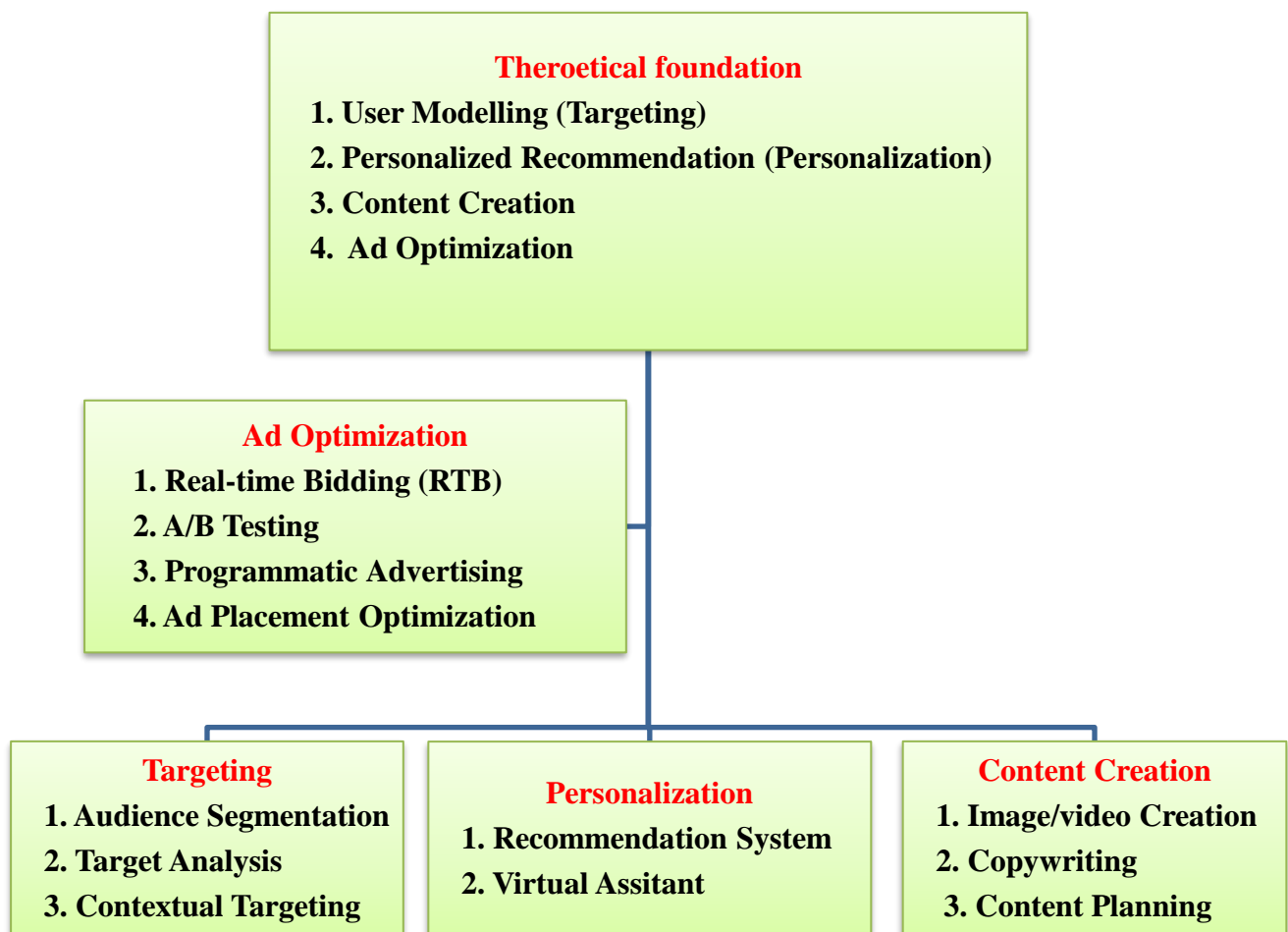
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Introduction

Artificial Intelligence (AI) has emerged as a transformative force within the advertising industry, fundamentally reshaping how brands connect with their audiences. Gone are the days of broad, untargeted campaigns; AI empowers advertisers to achieve unprecedented levels of precision, personalization, and efficiency. By harnessing the power of machine learning, vast datasets of consumer behavior are analyzed, revealing intricate patterns and preferences. This allows for the creation of highly tailored advertisements, ensuring that the right message reaches the right person at the right time, maximizing impact and minimizing wasted resources. Predictive analytics, a core component of AI, goes beyond simply reacting to past data; it forecasts future consumer trends, enabling brands to proactively optimize their campaigns and anticipate market shifts. The integration of AI extends beyond simple targeting. Real-time customer engagement is revolutionized through AI-powered chatbots, offering instant support and personalized interactions. Image and video recognition tools enable advertisers to delve into the visual landscape, identifying relevant content and tailoring ads accordingly.



This topic has discussed in numerous industry reports and academic studies, highlighting AI's growing influence. In essence, AI is making advertising more data-driven, more responsive, and more tailored to individual consumer needs. It's driving a shift towards predictive marketing, where campaigns are optimized based on anticipated behaviors. Ultimately, AI aims to create a more relevant and engaging advertising experience for both brands and consumers.



The image presents a hierarchical breakdown of the theoretical foundations and practical applications of AI in advertising. At the top, we see the core theoretical components: **User Modeling (Targeting)**, **Personalized Recommendation (Personalization)**, **Content Creation**, and **Ad Optimization**. These represent the fundamental areas where AI algorithms are employed to enhance advertising effectiveness.

Targeting

Targeting uses AI to precisely identify and segment audiences through analysis of user data, ensuring ads reach the most receptive individuals.

Personalization

Personalization then tailors the ad experience to each user's preferences, leveraging recommendation systems and virtual assistants to deliver relevant content.

Content Creation

Content Creation employs AI to generate engaging visuals, compelling copy, and strategic content plans, maximizing the impact of the ad.

Ad Optimization

Finally, Ad Optimization leverages real-time bidding, A/B testing, and programmatic advertising to fine-tune campaigns for optimal performance and return on investment.

Benefits of Artificial Intelligence (AI)

AI significantly enhances advertising through advanced personalization and precise targeting. By analyzing vast datasets, AI enables advertisers to create highly relevant ads tailored to individual consumer behaviors and preferences. This leads to increased engagement and conversion rates, as consumers are more likely to interact with content that resonates with them. Furthermore, AI's ability to predict future consumer behaviors allows for optimized ad delivery, ensuring ads reach the right people at the right time, thereby maximizing ad spend.

Beyond personalization, AI streamlines advertising operations through automation and creative enhancement. It automates tasks like media buying, bidding, and campaign optimization, allowing for real-time adjustments and efficient resource allocation. Additionally, AI aids in creative development by generating dynamic ad content and providing data-driven insights into effective formats and messaging. This combination of automation and creative assistance results in more impactful and cost-efficient advertising campaigns, ultimately boosting return on investment.

Impact of Artificial Intelligence (AI)

AI has dramatically altered the advertising landscape, moving it from broad demographic targeting to highly personalized, data-driven strategies. This shift allows brands to deliver tailored messages based on individual consumer behaviors, preferences, and interactions, resulting in increased customer engagement and conversion rates. AI-powered programmatic advertising has streamlined ad buying and placement, automating previously manual processes and significantly boosting efficiency. Furthermore, AI has revolutionized creative development by enabling the generation of dynamic content and facilitating real-time campaign optimization, ensuring brands maximize their advertising budgets. However, this increased reliance on AI introduces challenges, particularly concerning data privacy and ethical considerations, requiring brands to carefully balance

personalization with consumer trust. Despite these challenges, AI's impact continues to expand, opening up new avenues for innovation and redefining the possibilities within digital marketing.

Challenges

The collection of personal data raises significant privacy concerns, and biased algorithms can lead to unfair targeting. Over-reliance on AI diminishes human oversight, while implementation costs create barriers, especially for small businesses. Personalized ads can feel intrusive, and large datasets increase security risks. AI advertising faces several key challenges:

- Data privacy is a major concern with AI-driven advertising, as personal information is collected and used.
- AI algorithms may perpetuate biases, resulting in unfair targeting of specific groups.
- Excessive reliance on AI can reduce necessary human oversight in decision-making processes.
- The costs associated with implementing AI technologies can be a significant barrier, especially for smaller businesses.
- Highly personalized ads can sometimes feel invasive, leading to consumer discomfort.
- The large datasets required by AI increase the potential for data security breaches and vulnerabilities.

Conclusion

AI has fundamentally reshaped advertising, enabling brands to build more tailored, efficient, and successful marketing campaigns. By harnessing AI's strengths in data analysis, machine learning, and automation, businesses can refine targeting, optimize campaigns in real-time, and deliver highly relevant content, ultimately boosting engagement and ROI. While challenges like data privacy, bias, ethics, and implementation complexities remain, AI's potential rewards are considerable. As AI evolves, its significance in advertising will only grow. Through responsible deployment, transparency, and a focus on consumer trust, AI can revolutionize the industry, providing innovative solutions while maintaining ethical integrity.

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Bank Linkage to Micro Finance towards Empowerment of Womens with Special Reference to Southern District

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Introduction

The Micro-finance services in India are offered major two different models that are Self Help Group-Bank Linkage Model has come out as the most dominant model due to its implementation by formal financial institutions namely, Commercial Banks, Regional Rural Banks and Cooperative Banks. Nowadays, the Self-Help Group-Bank Linkage Programme is the largest microfinance programme in the world because of its sheer size and population ant it touches that the most widely participated developmental programme in the Country and possibly in the world for the large number of channel partners, their grass core workers, Indian Government agencies and banking outlets involved.

After huge trial and studies the pilot programme become released Twenty-Five years in the past in 1992. NABARD's test in SHG-BLP mounted the credibility of companies as a bankable proposition and rural humans able to economic discipline.

It formed a new set of clientele with untapped appetite leading to several NGOs acting as financial intermediaries for on-lending to groups buoyed by the success of SHG-BLP. A new breed of micro lenders was born, the Micro Finance Institutions. As per Micro-Finance Institutions Network (MFIN), as on 31.03.2017, the Microfinance industry has a total loan portfolio of Rs.106, 916 crore. The concept of SHG serves the principle "by the poor of the poor and for the poor". It took off from the Grameen Bank of Bangladesh, founded by the famous economist, Professor Muhammad Yunus of Chittagong University in the year 1975. The SHGs has got great potential in creating awareness on day-to-day affairs, promoting savings habit, developing self and community assets, increasing the income level, social power, and the like. Further, the concept of SHGs generates confidence and self-scrutiny. The Self-Help Groups formed in rural India usually consists

of fifteen to twenty members hailing from a certain locality with similar socio-economic backgrounds. The unregistered groups operate on the principles of mutual trust, cooperation and interdependence. The leaders are selected from members of the group. The basic philosophy underlying the concept of the Self-Help Group was the belief that the poor are bankable entities. The saving or the thrift and credit groups are mostly informal, who pool savings and re-lend them within the group on rotational or need basis. These groups have a common perception of need and impulse towards collective action. Many of these groups got formed around production activity, promoted savings among members and used the pooled resources to meet the emergent need of the members including consumption needs. Sometimes the internal savings generated were supplemented by external sources loaned/donated by the voluntary agency, which promoted the SHGs.

Statement of the Problem

The empowerment of women entrepreneurs can be studied in two broad categories namely empowerment in the SHG and empowerment through various external factors. The empowerment in the SHG is considered as unique internal factor influencing the empowerment of women entrepreneurs. Empowering women is to increase their control over the decisions that affect their lives both within and outside the household. Women ought to be endorsed to carry their imaginative and prescient and leadership, expertise and skills, perspectives and aspirations into the improvement schedule from the grassroots to global levels. Women should also participate in the decision-making. Emphasis should be given to advocacy of gender responsive legislation and constitutional revisions to increase women's opportunities, to influence the direction of society and to remove obstacles to women's access to power. This study will try to determine if there exists a relationship between micro finance and financial inclusion, as well as micro finance and financial development. Through a study of micro finance variables and indices signifying financial inclusion and development, the relationship of micro finance and financial development will be established. In this background, the researcher has aimed to study the impact of microfinance on rural development in southern District.

Scope of the Study

The concept of development is today getting a new dimension through SHGs. The installation of entrepreneurs is contributing to the holistic development of nation. So in relating the concept and programme of SHGs is an integral part of development to our contemporary society. The present study analyzes the impact of microfinance on rural development in Tamil nadu and brings out the various aspects of women empowerment through SHGs in selected districts like Theni, Madurai and

Dindigul. The present study will help in understanding the status, money circulation and financial undependability of the rural women in the SHGs in Tamil nadu and with special reference to selected districts like Theni, Madurai and Dindigul, as well as the motivational factors and reasons for the selection of particular nature of activities and the extent of their socio economic empowerment through the SHGs.

Objectives of the Study

The objectives of the proposed study are as follows

- i. To study the nature and extent of micro finance available to women SHGs.
- ii. To study the Origin and growth of Microfinance and Its impact through Self Help Groups in the Study Units
- iii. To study the extent of progress made by micro finance in rural areas in Tamil Nadu.
- iv. To analyse the demographic profile of the sample respondents

Hypotheses of the Study

The mean score of confidence to talk within family, to officials and public does not differ significantly with the respondents after joining the micro entrepreneurs, the mean score of new ventures on social empowerment does not differ significantly with the respondents after joining the micro business, the mean score of NGOs are treated as an institution does not differ significantly with the respondents after joining the micro finance to SHGs. The mean score of confidence to talk within family, to officials and public does not differ significantly with the respondents after joining the micro entrepreneurs, the mean score of financial support to NABARD does not differ significantly with the respondents after joining the micro entrepreneurs.

Primary Data

The primary data were collected directly from micro entrepreneurs from selected districts like Theni, Madurai and Dindigul Districts in Southern District, through a well structural interview schedule. For data collection, the researcher visited the respondents at different places including their work place. A pre-test is conducted among ninety self help group members of the selected districts. The interview schedule is prepared for the respondents have been pre-tested by the researcher in person.

Secondary Data

The secondary data for the study were collected from books, journals, research articles, magazines, reports, newspapers, websites that too mainly the official reports of World Bank, Consultative Group to Assist the Poor (CGAP), Reserve Bank of India (RBI), National Bank for Agriculture and Rural Development (NABARD), Commercial Banks, Regional Rural Banks, Co-operative Banks, Annual Report of Rural Development, State Level Banker's Committee (SLBC), and the like, Annual credit plan in Theni district to Lead Bank office, Annual Report in Microfinance. The researcher has also visited various university libraries in Tamil Nadu.

Sampling Design

The researcher has adopted the Convenient Sampling Method to identify the sample respondents of 90 micro entrepreneurs from selected districts like the Theni, Madurai and Dindigul Districts from nine blocks of three districts of southern. Due representation is given with regards to socio, economic and educational indicators of the sample respondents. Southern District was selected purposively for reasons cited in the choice of the study area and the agencies that render micro credit facilities. In the second stage, all the villages were ranked in each block according to the strength of the SHG in the total population and then the highest the SHG populated villages in each block and corporation were selected as sample villages in order to have a reasonable size. It formed 3 District in 9 blocks. In the third and final stage primary data were collected from all the SHGs in the selected area. The total number of SHGs was selected in the following way.

The presented in my southern district for block-wise to data collect in the area.

Table 1.1
Sample Size of the Respondent

Sl. No.	District	Name of the Blocks	No. of Samples	Percentage in Percent
1	Theni	Aundipatti	10	1.11
2		Bodinayakanur	10	1.11
3		Periyakulam	10	1.11
4	Madurai	Thirumangalam	10	1.11
5		Vadipatti	10	1.11
6		Usilampatti	10	1.11
7	Dindigul	Nilakottai	10	1.11
8		Bathalakundu	10	1.11
9		Ootanchathiram	10	1.11
Total			90	100.00

Table 1.1 shows that the sample size of the respondents are selected from three different districts and selected three blocks for 1.11 per cent of the micro entrepreneurs from selected districts like Theni, Madurai and Dindigul Districts from nine blocks of three districts of south Tamil Nadu. Primary data were collected with the help of structured interview schedule. Information for the study was also collected by FGD (Focused Group Discussion) and formal and informal meetings were organized with self help groups from selected districts like Theni, Madurai and Dindigul Districts of southern part of Tamil Nadu.

Framework of Analysis

The statistical procedures used are selected based on the suitability to examine the objectives of the research using SPSS statistical package. Quantitative data is drawn from respondents' responses in the present study. In order to analyze the collected data various statistical techniques are employed keeping in view the nature of the problem, objectives and hypotheses. Both descriptive and inferential statistics are used. In descriptive statistics, percentage and frequency are computed to explain the characteristics of respondents. In inferential statistics paired T test, Chi square test and Factor Analysis.

Operational Definitions and Concepts

a. Micro Finance

The Microfinance is a form of financial services. Microfinance is the provision of financial services such as loans, savings, insurance, and training to the poor women living in the rural areas in the country. The two main mechanisms for the delivery of financial services to such clients are: (1) relationship-based banking for individual women entrepreneurs and small businesses; and (2) group-based models, where several women entrepreneurs come together to apply for loans and other services as a group.

b. Micro-Credit

It is a component of microfinance and is the extension of small loans to women entrepreneurs, who are too poor to qualify for traditional bank loans. Especially in developing countries, micro-credit enables very poor people to engage in self-employment projects that generate income, thus allowing them to improve the standard of living for themselves and their families.

c. Micro Finance Institutions (MFIs)

A microfinance institution is an organization, engaged in extending micro credit loans and other financial services to poor women for their income generating and self employment activities. MFIs are usually not a part of the formal banking industry or government. It is usually referred to as a NGO (Non-Government Organization).

d. Microenterprise

A micro-enterprise (or microenterprise) is generally defined as a small business employing nine people or fewer, and having a balance sheet or turnover less than a certain amount. The terms microenterprise and micro-business have the same meaning, though traditionally when referring to a small business financed by microcredit the term microenterprise is often used.

e. Empowerment

The empowerment refers to increasing the spiritual, political, social and economic strength of individuals and communities. It often involves in developing confidence of the individual in his/her own capacities. It has different meanings in different social, cultural and political contexts. It indicates the expression of self-strength, control, self-power, self-reliance, freedom of choice and life of dignity, in accordance with one's values, capable of fighting for one's rights, independence, own decision making, being free, awakening, and capacity. Empowerment is relevant at the individual and collective level, and can be economic, social or political.

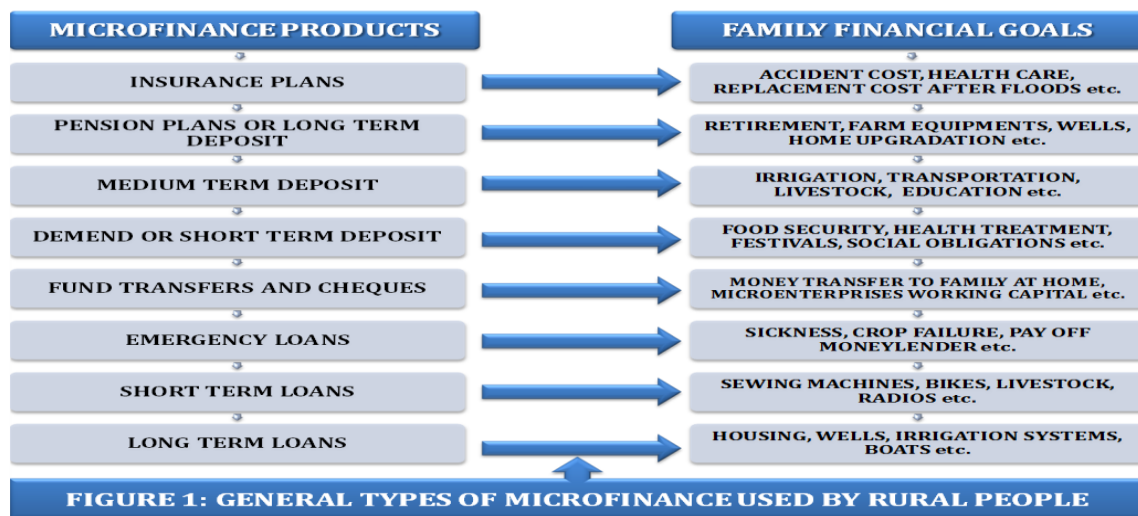
f. Self Help Group

The Self-Help Group is a village-based financial intermediary usually composed of 10–20 local rural women. Members make small regular savings contributions over a few months until there is enough capital in the group to begin lending. Funds may then be lent back to the members or to others in the village for any purpose. In India, many the SHGs are 'linked' to banks for the delivery of microcredit.

Performance of SHG- Bank Linkage in India

The SHG-Bank linkage Programme has traversed twenty-five years of unabated journey towards empowering the rural poor, in general and rural women in particular. Taking a big leap from a pilot in 1992, SHG bank linkage Programme has now become the largest community-based microfinance initiative with 85.77 lakh SHGs as on 31 March 2017 covering more than a hundred

million rural households. There was a net addition of 6.73 lakh savings linked SHGs during 2016-17, a major portion (70.4%) from priority States indicating the urge for connecting the poor households in less developed States with the development process through SHG-BLP.



Bank Loan to Micro Finance and NABARD in India

The NABARD has been extending 100 percent refinance to banks towards their lending to SHGs and MFIs to supplement their resources. Total loans issued by banks to the SHGs and the refinance extended by NABARD for such loans during 2018-19 the presented in table.

Table 1.2
Bank Loan to Micro Finance and NABARD (In Rs. Crores)

Year	2017-18	2018-19	2019-20	2020-21	2021-22
Micro Finance	27582.31	37286.90	38781.16	47185.88	55590.60*
Nabard	37286.90	690603	565951	698137	700323

Source: 1. Annual Report in Micro Finance During 2020-2021.

2. Annual Report in NABARD in India 2020-21.

The above table the latest year in 2021-22 microfinance for the NABARD extended refinance to the extent of Rs. 7003.23crore against their SHG lending forming 15.80 percent of the total refinance provided to Banks for investment credit, as against Rs. 6981.37crore totals disbursed during the previous year. Cumulative disbursement of refinance by NABARD for SHG lending now stands at Rs. 50274.97 crores the all-India level.

Micro Finance of Women in Tamil Nadu

Multifold activities of the SHGs have paved the way for improving village economy. Creating avenues for skill development, including leadership qualities and enabling economic independence are major functions of the “Mahalir Thittam”, a project of Tamil nadu Corporation for Development of Women (TNCDW) which aimed at empowerment of women since 1983. The key strategy was social mobilization of women by forming them into SHGs and promotion of savings and thrift. SHG movement in Tamil nadu started with the International Fund for Agriculture Development (IFAD) assisted Women’s Development Project from the year 1991-92. Over the past 20 years, the SHG movement has spread to the entire length and breadth of the state. Now 85.70 lakh women have been mobilized into 5.56 lakh SHGs under Mahalir Thittam. The SHGs have so far availed of a credit of Rs. 15,633.83 crore from various banks and have a total savings of more than Rs. 3,374.60 crore³⁶. The Government has formed a lot of federations from Panchayat level to urban level. During the next two years, group formation will be undertaken with special focus on National Rural Employment Guarantee Scheme (NREGS) women workers, urban slum dwellers and in village panchayats where the SHG coverage is still inadequate.

Suggestions

The micro credit should be used to meet the current demands of the poor women, whether these are for health, education or consumption purposes. This will lead to a gradual improvement in the quality of their lives and will enable them to identify activities for economic betterment. In this process they will learn fiscal discipline and be ready to take on market oriented economic activities. Government should organize micro credit camps and credit cum-recovery camps to facilitate early completion of the formalities required for sanction of loans and to avoid hardship to the beneficiaries. Government should make the rural people to realize that the SHGs are the main medium for rural employment generation, Encouragement and support by the Government will solve the problem of rural unemployment. The entrepreneurial abilities are realized by everyone and India needs rural entrepreneurs to solve the employment problems. This paves a way for women empowerment in India.

Conclusion

The researcher presents this study with the fervent hope that this will draw the attention of the authorities, departments and organizations concerned with micro finance and the SHGs on the various issues in respect of the development of women empowerment. The researcher humbly states

that this study is not a fascinating one to strengthen the academic value. If the study helps the women towards their empowerment in any way, the researcher will feel happy that they are amply rewarded.

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A Study on Consumers' Perceptions of Tourism Services in Southern Districts of Tamil Nadu

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Introduction

Southern Districts of TamilNadu, stands as a vibrant hub of culture, heritage, and commerce in India. Known for its rich history, diverse traditions, and picturesque landscapes, it attracts millions of domestic and international tourists each year. The tourism sector in Southern Districts of TamilNadu plays a crucial role in the city's economy, contributing significantly to job creation and local development. As competition in the global tourism market intensifies, understanding consumer perception towards tourism services becomes imperative for stakeholders aiming to enhance service delivery and visitor satisfaction. Consumer perception encompasses the beliefs, attitudes, and evaluations that tourists hold regarding various aspects of tourism services, including hospitality, transportation, and cultural experiences. Research in this area reveals that positive perceptions can lead to increased customer loyalty, favourable word of mouth, and higher levels of satisfaction. Conversely, negative experiences can detrimentally impact a destination's reputation and diminish tourist inflow. This paper aims to explore the multifaceted dimensions of consumer perception towards tourism services in Southern Districts of TamilNadu, investigating factors such as service quality, cultural authenticity, digital influence, and sustainability concerns. Understanding consumer perception is essential for fostering a sustainable and thriving tourism ecosystem in Southern Districts of TamilNadu, ensuring that it remains a desirable destination for years to come.

Factors Influencing Tourism

The growth of tourism could be attributed to several factors. The most important among them would include.

Pleasant Weather

Good and favourable weather is the main source of joy and pleasure. It is naturally one of the most important and vital attractions of any tourist place anywhere in the world. Fine weather with

warm sunshine is a God given gift of nature. For holidaying or for a picnic, good weather is mainly the most important ingredient as it plays an important role in making holidays or a picnic a pleasant or an unpleasant experience.

Scenic Attractions

Like good weather, scenic attractions too are equally important for tourism development. Scenery or landscape comprising 10 mountains, fountains, lakes, valleys, waterfalls and glaciers and forests, deserts and the like are the major tourist attractions.

Historical and Cultural Factors

Historical and cultural factors also largely add to tourist interests. A fairly large number of tourists are attracted every year by places of historical importance like the birth place of William Shakespeare in England, or the city of Agra in India because of the world's wonder Taj mahal or Pisa in Italy because of its famous leaning tower. Thousands of tourists visit India because of its long historical heritage.

Accessibility

Accessibility means an easy and comfortable approach to a tourist spot. It is an important factor as it is a means by which a tourist can reach in comfort an area where the chief sources of attraction are located. Easy accessibility is an important factor for the growth and progress of tourist movements.

Amenities

Amenities mean facilities provided to tourists in tourist centres. In a seaside resort, facilities like swimming or boating, yachting or surf riding and similar other facilities like dancing, recreation and amusements are essential. Amenities are a must for any tourist centre. They could be studied under two heads.

Accommodation

The word “accommodation” is generally used to include boarding and lodging. Tourist centres can easily find a place in the international map by the international standards maintained by these boarding and lodging facilities.

Objectives of the Study

1. To know the Demographic Profile of the customers.
2. To find out the level of satisfaction of respondents towards tourism services.
3. To study the consumer perception towards tourism services.

Review of Literature

Southern Districts of TamilNadu, a vibrant city on the south-eastern coast of India, has evolved into a prominent tourist destination. Its rich cultural heritage, historical landmarks, and diverse culinary scene attract both domestic and international tourists. Understanding consumer consumption patterns in tourism is vital for stakeholders aiming to enhance the tourist experience and optimize economic benefits.

Consumer behaviour in tourism is influenced by various factors, including psychological, sociocultural, and economic elements. According to Kotler et al. (2017), tourist decision-making is shaped by personal preferences, past experiences, and social influences. In the context of Southern Districts of TamilNadu, consumers exhibit a blend of traditional and modern values, impacting their travel choices. Southern Districts of TamilNadu's unique cultural milieu plays a crucial role in shaping tourism consumption. Research by Srinivasan (2018) highlights that tourists are drawn to cultural festivals, traditional crafts, and local cuisine. The interplay of culture and consumer preferences suggests that marketing strategies must emphasize authentic experiences to attract tourists.

Consumer satisfaction in tourism refers to the fulfilment of tourists' expectations during their travel experiences. According to Oliver (1999), satisfaction is a post-consumption evaluative judgment, which is influenced by both pre-visit expectations and actual experiences. This concept is particularly relevant in Southern Districts of TamilNadu, where the diversity of attractions presents a range of consumer expectations.

Economic conditions significantly influence consumer spending in tourism. A study by Ramesh (2020) indicates that factors such as disposable income, travel costs, and economic stability directly affect tourist expenditures in Southern Districts of TamilNadu. Understanding these economic determinants can help local businesses tailor their offerings to maximize tourist engagement. The rise of digital platforms has transformed consumer behaviour in tourism. Research by Kumar and Rani (2021) emphasizes the importance of online reviews, social media, and travel apps in shaping tourists'

choices. In Southern Districts of TamilNadu, the proliferation of technology facilitates better accessibility to information and services, enhancing the overall travel experience.

Tourist experiences, including interactions with locals and participation in cultural activities, have been shown to influence satisfaction levels. A study by Selvam (2022) emphasizes that immersive experiences, such as attending traditional festivals, lead to higher satisfaction among visitors. While many factors contribute to consumer satisfaction, challenges such as overcrowding, inadequate infrastructure, and inconsistent service quality remain prevalent in Southern Districts of TamilNadu's tourism sector. A study by Rajendran (2023) highlights that addressing these challenges through strategic improvements can enhance tourist satisfaction and encourage repeat visits.

As global awareness of sustainability grows, consumers increasingly prefer eco-friendly and socially responsible tourism options. A study by Rajesh (2022) reveals that Southern Districts of TamilNadu tourists are increasingly opting for sustainable travel practices, such as choosing eco-friendly accommodations and supporting local artisans. This shift towards ethical consumption calls for a re-evaluation of tourism offerings in the city. The COVID-19 pandemic has profoundly impacted tourism consumption patterns. Research by Gupta (2023) indicates that health and safety concerns have altered tourists' preferences, leading to a rise in domestic tourism and a focus on less crowded destinations. Southern Districts of TamilNadu's tourism sector must adapt to these changing consumer sentiments to revive the industry.

The literature on consumer consumption in tourism in Southern Districts of TamilNadu highlights the interplay of cultural, economic, technological, and ethical factors. Stakeholders in the tourism industry must leverage these insights to develop targeted marketing strategies, enhance visitor experiences, and foster sustainable practices. Further empirical research is needed to quantify these trends and better understand the evolving landscape of tourism consumption in Southern Districts of TamilNadu. The literature indicates that consumer satisfaction in Southern Districts of TamilNadu's tourism sector is influenced by a combination of service quality, destination attributes, technology, and cultural experiences. For stakeholders, focusing on these elements can enhance tourist experiences and promote sustainable tourism growth. Future research could further explore the dynamic nature of consumer satisfaction and its implications for the evolving tourism landscape in Southern Districts of TamilNadu.

Methodology

This study is based on primary and secondary data. The primary data is collected from 60 respondents in Southern Districts of TamilNadu city. Convenience sampling technique has been used to select the sample respondents. The secondary data is collected from the journals, magazines, books, published research papers and website.

Limitation of the Study

1. The size of the sample is only 60 respondents.
2. The study is conducted in Southern Districts of TamilNadu only.

Analysis of Data

Table 1 – Demographic Variable Analysis

Demographic Variable Analysis			
Demographic variable		No. of Respondents	Percentage
Age	Below 20	10	17
	20 – 40	27	45
	40 – 60	15	25
	Above 60	8	13
	Total	60	100
Gender	Male	38	63
	Female	22	37
	Total	60	100
Educational Status	Up to Higher Secondary	8	13
	Graduation	15	25
	Post- Graduation	29	48
	Others	8	13
	Total	60	100
Occupation status	Government Employee	5	8
	Private Employee	30	50
	Business	10	17
	Others	15	25
	Total	60	100
Annual income	Less than 3 lakhs	14	23
	3 lakhs to 5 lakhs	25	42
	5 lakhs to 10 lakhs	15	25
	Above 10 lakhs	6	10
	Total	60	100

Source: Primary Data

The above table explains about the demographic variables of the respondents. 45 percent of the respondents are in the age group of 20-40, 63 percent of the respondents are male, 48 percent of the respondents are post graduate. Most of the respondents are private employees and their annual income is 3lakhs – 5 lakhs.

Table 2 – Reason for Visit

Reason	No. of Respondents	Percentage (%)
Site Seeing	38	63
Relaxation	16	27
Health	2	3
Business	1	2
Others	3	5
Total	60	100

Source: Primary Data

The above table shows that 63 percent of the respondents visited for site seeing, 27 percent for relaxation, 3 percent for health trip, 2 percent for business and 5 per cent for others. Hence, most of the respondents are going to trip for the purpose of site seeing and relaxation.

Table 3 – Stay at Tourist Spot

Stay period	No. of Respondents	Percentage (%)
1 - 2 days	31	52
2 - 3 days	15	25
3 – 5 days	8	13
More than 5 days	6	10
Total	60	100

Source: Primary Data

The above table reveals that 52percent of the respondents are prefer to stay 1-2 days and 25 percent of the respondents are preferring 2-3 days for stay at the tourist spot.

Table 4 - Means of Booking the Trip

Means	No. of Respondents	Percentage (%)
Self	39	65
Travelling companies	15	25
Agents	4	7
Local agencies	2	3
Total	60	100

Source: Primary Data

The above table depicts that the means of booking of the trip by the consumers. Most of the respondents are prefer self-arrangement for their trip. 25 percent of the respondents prefer travelling companies. 3 percent of the respondents prefer local agencies for their trip.

Table 5 – Types of Accommodation

Types	No. of Respondents	Percentage (%)
Guest house	8	13
Government hotels	4	7
Hotels	23	38
Hired Room or Cottage	15	25
Friends & Relatives	10	17
Total	60	100

Source: Primary Data

The above table explain that the types of accommodation preferred by the customers. Most of the respondents are prefer hotels, because of amenities given by the Hotels.

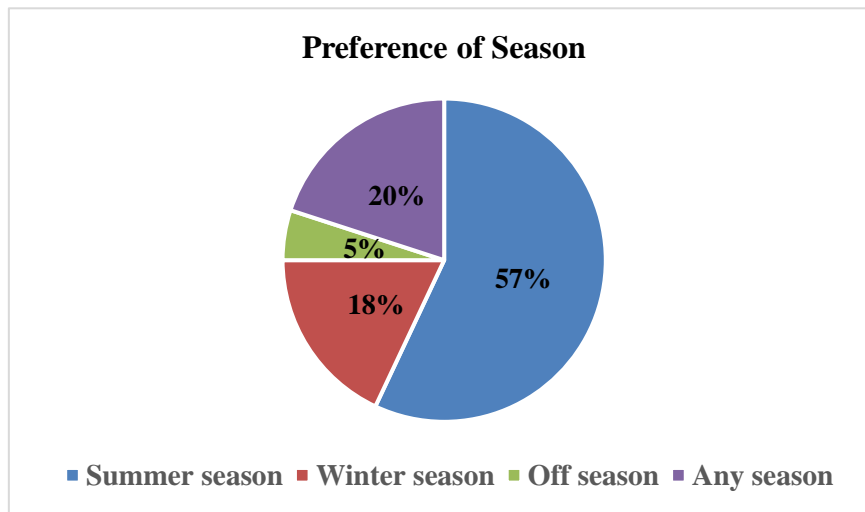
Table 6 - Consumer Perception Towards Tourism

Factors	HS	S	F	DS	HDS	No. of Respondents	Total weight	Weighted Mean	Rank
Availability of adequate medical facility	34	20	4	2	-	60	266	4.43	III
ATM Facility	20	24	14	2	-	60	244	4.06	VIII
Transport facility	40	15	5	-	-	60	275	4.58	II
Safety measures	30	24	6	-	-	60	264	4.40	IV
Tower coverage for mobile services	28	26	6	-	-	60	262	4.36	V
Shopping facility	45	12	3	-	-	60	282	4.70	I
Cleanliness of the area	34	20	4	2	-	60	266	4.43	VI
Parking facility	22	32	2	4	-	60	252	4.20	VII

Source: Primary Data

The above table reveals that the consumer satisfaction level on tourism services. The first rank is given to shopping facility and the second rank are given to transport facility. The last rank is for ATM facility. Now a day's people prefer online transaction instead of carrying cash and searching of ATM's. Most of the consumers are enjoying their trip with more shopping comforts.

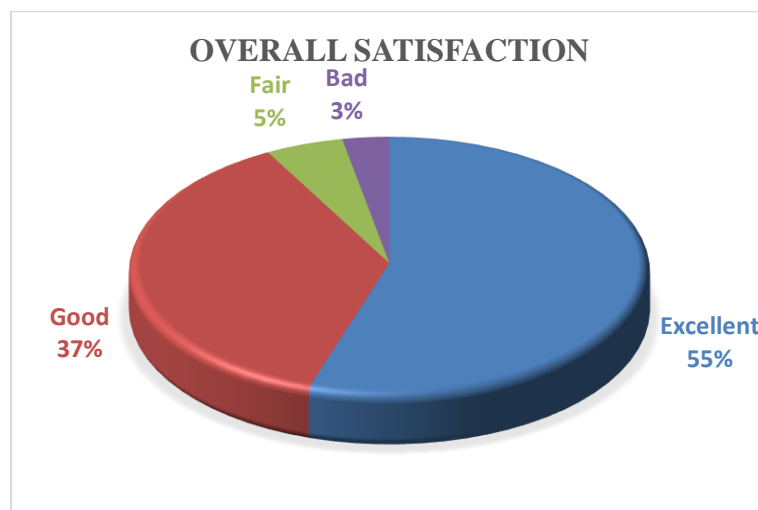
Diagram 1 – Consumer Preference for Trip Season



Source: Primary Data

The above diagram represents the preference of season of consumer for a trip. Most of the consumers are prefer summer season.

Diagram 2 – Overall Satisfaction



Source: Primary Data

The above diagram depicts that the overall satisfaction of the consumer. Most of the consumers are satisfied with their trip.

Finding of the Study

- Majority 63% of the respondents are male.
- It is found that most of the respondent (45%) is of the age group of 20-40.

- Majority respondents (42%) are in the income level of 3lakhs – 5 lakhs.
- 48% of the respondents are post graduates.
- Most of the respondents are private employees.
- Most of the respondents obtained information from advertisement/publicity.
- Most of the respondents are visited tourist spots for site seeing and for relaxation.
- Most of the tourist 52 percent stayed less than 3 days.
- Most of the respondents are prefer summer to visit different places.
- The majority of the respondent's 38 percent prefer hotels for their accommodation.
- It is inferred that many of the respondents 65 per cent have booked accommodation by them.
- The consumers are faced some problems like unclean areas, Unhygienic Drinking Water, Poor toilet facilities, Lack of information, Poor conveyance, and Heavy traffic.

Conclusion

In conclusion, the desire for change and new experiences drives individuals to seek out travel opportunities, with many opting for trips that promise health and joy. This study has shown that a significant portion of respondents expressed high levels of satisfaction when traveling independently, highlighting the importance of self-directed experiences in enhancing tourist enjoyment. Overall, the findings indicate that customer satisfaction within Southern Districts of TamilNadu's tourism industry is largely positive, suggesting that tourists appreciate the unique offerings and opportunities for exploration available in the city.

To maintain and improve this satisfaction, stakeholders should focus on enhancing the quality of services, promoting local culture, and ensuring that the needs and preferences of travellers are met. By doing so, Southern Districts of TamilNadu can continue to be a favoured destination for those seeking memorable and fulfilling travel experiences.

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The Tourist Experience: A Psychological Approach to Talent Attraction and Retention in the Transportation Sector

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Introduction

The transportation sector plays a pivotal role in enabling travel, providing access to new destinations and cultures. As a result, the quality of transportation services is closely tied to the overall tourist experience. Travelers' perceptions of their journeys significantly influence their satisfaction and loyalty, which in turn impacts the industry's ability to attract and retain skilled professionals. When travelers encounter smooth, efficient, and enjoyable transportation, they are more likely to experience a heightened sense of pleasure, leading to repeat visits and positive recommendations. Conversely, negative experiences can result in dissatisfaction, harming the reputation of both tour operators and the transportation industry as a whole.

This study explores the psychological factors that shape traveler experiences within the transportation sector. Through empirical data analysis, the research aims to identify key variables influencing travel preferences and satisfaction levels. Psychological concepts such as emotional responses, perceived value, and interactions with customer service play a crucial role in shaping travelers' perceptions. Positive engagement with staff can significantly enhance a traveler's overall experience, while delays or poor communication may lead to frustration and dissatisfaction.

Understanding these psychological dynamics is essential for transportation providers seeking to improve service quality. Companies can enhance customer satisfaction by prioritizing emotional and cognitive aspects of the travel experience. Strategies such as advanced customer service training, real-time communication through technology, and well-maintained, comfortable vehicles can significantly improve traveler experiences.

Moreover, enhancing the traveler experience directly impacts workforce stability within the transportation sector. A satisfied customer base increases service demand, necessitating a skilled and

motivated workforce. By fostering a positive environment for both travelers and employees, organizations can cultivate a strong workplace culture that attracts and retains talent.

Ultimately, this study argues that integrating psychological principles into transportation operations creates a win-win scenario. Enhanced tourist experiences lead to greater satisfaction and loyalty while also fostering a motivated workforce. For sustainable growth and success, the transportation sector within the tourism industry must focus on both employee well-being and customer satisfaction. This research aims to provide valuable insights for both travelers and transportation professionals, offering practical strategies to elevate the overall travel experience.

Literature Review

1. **Pizam, A. (2010)** in his article, **“The Psychology of Tourism: What Do We Know?”** provides a comprehensive overview of psychological theories and concepts that shape tourist behavior and experiences. He highlights factors such as motivation, perception, and the emotional aspects of tourism. For the transportation industry, understanding these psychological drivers can help attract talent by aligning employee roles with the intrinsic motivations of prospective staff. The findings underscore the importance of creating a workplace culture that enhances employee engagement, which in turn positively impacts the tourist experience.
2. **Kwortnik, R. J., & Thompson, G. M. (2009)** in their research, **“Unifying Service Marketing and Operations with Service Experience Management”** have proposed a framework for integrating service marketing and operations through the lens of service experience management. They emphasize the importance of managing the entire service experience to achieve customer satisfaction. In the transportation sector, this approach can help align employee experiences with tourist expectations. By fostering a cohesive service experience, companies can enhance employee motivation and retention, leading to improved service delivery and overall tourist satisfaction.
3. **Chen, C.-F., & Tsai, D. (2007)** in their research paper **“How Destination Image and Personality Influence Tourists’ Satisfaction and Loyalty”** have examined the interplay between destination image and tourists' personalities, demonstrating how these factors influence satisfaction and loyalty. In the context of the transportation industry, this research suggests that employees who understand and connect with destination branding can better serve

tourists, enhancing their experiences. This insight is crucial for talent attraction, as individuals who resonate with the company's image are more likely to be motivated and committed, improving retention rates.

4. **Baker, M. A., & Crompton, J. L. (2000)** in their study, “**Quality, Satisfaction and Behavioral Intentions**” have explored the relationships among service quality, tourist satisfaction, and behavioral intentions. Their findings indicate that high service quality directly correlates with tourist satisfaction, leading to repeat visits. This underscores the need for transportation companies to invest in employee training and development, fostering a service-oriented mindset that can improve both tourist experiences and staff retention. A focus on quality service can enhance employee pride and engagement, making the workplace more attractive.
5. **Bitner, M. J., & Gremler, D. D. (2000)** in their article, “**Technological Innovation in Service Industries: The Role of Service Experience**” have discussed the integration of technological innovations in enhancing service experiences. They argue that technology can streamline operations and improve employee efficiency, leading to better tourist interactions. For talent retention in the transportation industry, leveraging technology to create a supportive work environment can empower employees, enhancing their job satisfaction. A positive service experience not only boosts tourist satisfaction but also fosters a sense of accomplishment among employees, encouraging them to stay.

Statement of the Problem

Talent management in the transportation sector plays a crucial role in gathering valuable feedback and insights from travelers. By analyzing their experiences and criticisms, transportation providers can develop effective strategies to stay competitive and ensure long-term sustainability. This study aims to explore the interrelationship between psychology, tourist behavior, and talent management, highlighting how an understanding of traveler psychology can enhance service quality and workforce retention in the transportation industry.

Objectives of the Study

- ✓ To analyze the problems faced by travelers in transportation sector.
- ✓ To study the current impact of traveler's preference on transportation sector.

- ✓ To suggest innovative business measures to acquire and retain the talent of travelers for business development.

Limitations of the Study

- ✓ The study focuses on travellers in and around Tamil Nadu.
- ✓ The study is based on primary data collection, regarding the satisfaction level of travellers regarding the services provided by the transportation sector.

Research Design

The research design followed for this study is descriptive research. Because, it includes survey and fact-finding enquiries. The major purpose of using this research design is to describe the state of affairs as it exists at present. The main characteristic of this method is that the study has no control over its variables and the researchers can only report what has happened and what is happening in the Transportation Industries at Tamil Nadu and the satisfaction level of travellers.

Sources of Data

Sources of collecting data for this study include Primary and Secondary Sources.

Primary Data

Primary data is known as the data which is collected for the first time and which is original & accurate in nature. Primary data were collected from the sample respondents through virtual mode i.e., by creating questionnaire in Google Forms and then sending that link to the respondents.

Secondary Data

Secondary data refers to the already available facts collected by some other researcher or publication agencies or websites. For the current study to have a clear-cut picture about the background of the study, secondary data are used.

Data Collection Instrument

The data is collected from the respondents of study unit through Mailed Questionnaire Method. Due to the pandemic situation the researcher has used virtual platform to collect the data based on the predefined database prepared on considering the permission given by the Industries.

Population

The population of the research includes the travellers in Tamil Nadu.

Sampling Area

Sampling Area is Tamil Nadu.

Sampling Size and Unit

Information was collected from a sample size of 52 (42 males and 10 female) respondents. The sampling unit is travellers in Tamil Nadu.

Sampling method

Since the travellers were scattered all over Tamil Nadu, the researchers have collected data through virtual mode. Hence based on choice and easy access, data is collected from travellers through Convenience sampling method.

Data Analysis and Interpretation

The data collected were arranged in concise and logical order and thus they were classified and tabulated, which supports logical and statistical interpretation of data.

Significance of factors when choosing transportation services

Table 1

Importance of Transportation Services

S. No	Particular	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Total
1.	Cost	2	9	7	14	20	52
2.	Convenience	2	6	8	12	24	52
3.	Comfort	2	7	10	13	20	52
4.	Safety	3	4	7	7	31	52
5.	Speed	2	8	11	15	16	52
6.	Environmental Friendliness	2	8	14	16	12	52

Source: Online Survey

It is inferred from the above table that the transportation services were prioritized based on safety, convenience, cost & comfort, speed and environmental friendliness.

Ranking transportation modes in order of preference

Table 2
Preference of Transportation modes

S. No	Particular	Most Preferred	Very Preferred	Slightly Preferred	Slightly Less Preferred	Least Preferred	Total
1.	Airplane	6	7	17	5	17	52
2.	Train	20	8	15	4	5	52
3.	Bus	10	16	16	5	5	52
4.	Car	24	13	8	5	2	52
5.	Bicycle	3	5	11	7	26	52
6.	Walking	4	10	7	4	27	52

Source: Online Survey

It is inferred from the above table that the ranking of transportation modes are preferred based on travellers suggestion say, bicycle, walking, airplane, train & bus and car.

Satisfaction level of reliable transportation services

Table 3
Measuring transportation services reliability

S. No	Particular	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
1.	Transportation option available	5	1	10	18	18	52
2.	Affordability of transportation	3	3	10	20	16	52
3.	Reliability of transportation	4	2	15	14	17	52
4.	Quality of transportation service	2	3	12	16	19	52

Source: Online Survey

It is inferred from the above table that the reliability of transportation services were measured by ascertaining the satisfaction level of travelers, which includes the order of sequence as Quality, Option availability, reliability of service and affordability of transportation.

Factors influencing choice of transportation

Table 4
Traveler's choice of transportation

S. No	Particular	Not at all	Slightly	Moderately	To a great extent	To a very great extent	Total
1.	Distance to the destination	8	5	12	13	14	52
2.	Availability of transportation options	4	5	12	12	19	52
3.	Travel Time	3	6	15	21	7	52
4.	Luggage Restriction	6	13	14	12	7	52
5.	Scenic Route	4	11	17	10	10	52

Source: Online Survey

It is inferred from the above table that travellers were influenced by the transportation choice in the order, namely, availability of transportation options, distance to the destination, scenic route, and travel time & luggage restriction.

Results and Discussion

Improving the visitor experience is essential for transportation businesses to draw and keep qualified personnel, as well as for increasing customer satisfaction. Companies can use a range of tactics to meet the changing needs of travellers in order to accomplish these aims. Here, the researchers have examined four crucial tactics: customer-centricity, creativity, sustainability measures, and personalization. Every tactic is essential to improving the overall travel experience and keeping the company competitive and attractive to both visitors and staff.

The psychological aspects of the traveller experience are crucial in determining how the transportation sector develops. Comprehending these aspects is not only a theoretical endeavour; it bears concrete consequences for client contentment and the dynamics of expertise in the industry. The information extracted from the questionnaire data provides valuable insights into the elements that impact the preferences and priorities of tourists. It also identifies areas of strength and weakness that can help transportation providers focus their strategic efforts.

Tourists' attention on specific psychological variables, such as convenience, safety, and individuality, is one of the most important discoveries. Travelers' overall satisfaction levels are influenced by these factors. Transportation companies may improve the traveler experience and increase satisfaction, good word-of-mouth recommendations, and repeat business by giving priority to these psychological demands.

Furthermore, tourists benefit from the emphasis on psychological aspects; the staff in the transportation industry is also impacted. Workers are likely to feel more motivated and involved in their work when they are aware of and have the authority to address the psychological requirements of passengers. An environment where employees feel a sense of ownership and pride in their job is created by a customer-centric culture that values feedback and places a high priority on providing great service. Consequently, this fosters a workforce that is committed to providing excellent service, improving the organization's reputation as a whole.

Specific areas where transportation companies might enhance their offerings are also revealed by the questionnaire results. Businesses can find areas where improvements are needed and service gaps by examining the preferences of tourists. By putting these changes into practice, businesses not only meet travelers' immediate requirements but also demonstrate their flexibility and responsiveness to shifting customer demands.

Conclusion

In an industry characterized by rapid change and evolving consumer preferences, prioritizing the psychological aspects of the tourist experience is essential for sustained growth and success. As travelers become more discerning, transportation providers that fail to recognize and address these psychological factors risk losing market share to competitors who better understand and cater to consumer needs. Businesses that invest in understanding the psychological foundations of travel can craft compelling narratives that resonate with travelers, ensuring comfort, security, and memorable experiences.

Furthermore, this psychological focus aligns with broader trends in the tourism sector, where travelers increasingly seek transformative experiences rather than just destinations. By enhancing the journey, itself and making it more emotionally fulfilling, transportation companies can play a crucial role in creating unique and impactful travel experiences.

Ultimately, the connection between psychological factors and traveler satisfaction is vital to the success of the transportation industry. Companies that emphasize these elements can expand their customer base and foster a dedicated workforce committed to delivering exceptional service. As the industry continues to evolve, prioritizing the psychological dimensions of travel will be key to achieving long-term growth, sustainability, and competitive advantage. Improving travelers' psychological experiences will not only enhance passenger satisfaction but also contribute to a more motivated and efficient workforce.

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A Study on The Impact of Remote Work on The It Companies, Madurai

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Abstract Background

Working remotely is using ICT to coordinate and cooperate with the team while working from home. It is now a hot topic in all organizations, particularly in the IT industry. Organizations worldwide have embraced these employee-friendly methods as a result of the increasing availability of technology and the internet. Since the majority of Madurai's IT enterprises are located outside of the city, remote working has become necessary as a result of the region's current water issue.

Aim

The goal of the research is to determine the value of remote work and examine the global demand for it by examining the effects of remote work on the IT sector in Madurai, as seen from the viewpoints of employers and employees.

Design and Method

This study's research design combines quantitative and qualitative research methods. For the quantitative study, 76 workers from three companies in Madurai provided primary data via online Google forms. In order to balance the perspectives of employers and employees, a non-probability purposive sample of managers at the management level was selected for the qualitative study from the same firms that were selected for the quantitative approach. To achieve a comprehensive understanding of this topic, three semi-structured interviews using a theme approach are conducted with the same firms to obtain perspectives from both employees and management regarding the decision to work remotely.

Results

The study offered empirical support for the claim that employees primarily appreciate remote employment due to its flexibility. It is being pushed by a lot of companies since it offers employment prospects for those who are unable to commute to work and is linked to numerous benefits for management in terms of expenses, employee satisfaction, and retention. On the other hand, the management also takes team building activities into consideration because the employees' isolation is a major drawback of remote work. Remote employment is seen as the finest way to glimpse the future in a country as densely populated as India, where the economy is expanding quickly and the populace is youthful and tech-savvy. Both parties gain from the self-discipline exhibited by remote workers.

Recommendation

The information technology companies in Madurai, India are advised by this study to adopt a policy that permits workers to work from home, as it has been shown to have positive effects on productivity, quality, employee satisfaction, and retention.

Keywords: Remote working, Job satisfaction, Employee retention, Information Technology Sector, Madurai IT, Telecommuting

Introduction

The idea of remote work allows staff members to work without having to travel to a main office. It could also be referred to as telecommuting, telework, and work from home (Tammy D. Allen, 2015). With the help of information and communication technology, people can now operate more productively and successfully even when they are not physically present at their workplace workstations. The ability to work from home is getting more and more popular. For the same reason, the number of remote workers in the IT industry has been steadily rising. (Mahadik, 2016)

It is not surprising that companies are looking for remote workers and that remote work is becoming more and more popular because modern, cutting-edge technology enables telecommuting and virtual collaboration more efficient and less difficult than in the past. (Allen, 2015, pp. 40 – 68). This is true for freelancers and tech/IT contractors, as the information and computer system sector are currently the second-most adopting of remote work. (Bentley, 2016, pp. 207 - 215).

According to Gallup's workplace findings study from 2016, 57% of employees who work in IT and computer systems have worked remotely at least occasionally. The result of shifting workplace expectations is remote work in the technology and IT industry. There are multiple factors contributing to this development. Companies will have to reevaluate their old tactics and policies since highly skilled tech experts want flexibility in terms of work time and location (Bell, 2018).

Globally, it is a phenomenon that is expanding quickly. According to data from the US Employee Workforce, telecommuting increased by 115% over the previous ten years (analytics, 2017).

- In the 2017 fiscal year, the IT sector employed over 3.9 million people and contributed 8% of India's GDP. 2018 job growth was predicted to be between 130000 and 150000, while 2019 job growth was predicted to be 100000 ('IT-ITeS-ReportMar-20181.pdf, no date). (Page 86, Bakshi, 2017)
- Women make up a sizable portion of this group and frequently quit their careers to raise a family. (Biswas, 2017)
- More women are pursuing their jobs even after starting families thanks to remote employment. Loubier, March 13, 2017

- Studies have also revealed that people would rather work from home than in workplaces. They could be able to work in a calm environment, preserve their worklife balance, and save money on their travel expenses as a result (Carrión, 2016) □ A company's culture is greatly impacted by its flexible work from home policy.

Although some employers provide considerable flexibility to working parents, particularly mothers, the practice of working from home is very controversial overall. When it comes to a corporation implementing this policy, its location is crucial. What kind of culture a firm wishes to acquire and become renowned for is vital to the business world (Timsal and Awais, 2016). In order to address the severe water crisis in Madurai, many ICT companies in the city are urging their staff to work from home for the next three months (Madurai: No water, work from home, IT firms tell staff |Madurai News-Times of India, 2019). This has caused disruptions to multiple offices and their work schedules.

According to a 2016 poll, 41% of organizations are completely virtual and only meet virtually. The important aspect of it is that virtual teams now have a greater worldwide presence and have grown increasingly global in nature. The same poll conducted in 2017 found that over half of the team doesn't work together and lives in various places. That percentage was only 41% in 2014 and 33% in 2012 (VIRTUAL TEAMS SURVEY REPORT, 2016). The aforementioned figures demonstrate how working from home has changed over time and how many large organizations use it worldwide. Comprehending the correlation between telecommuting and its impact on job output, dispositions, interpersonal connections, and overall welfare is crucial for businesses seeking to retain their workforce. The increasing number of people working from home makes it more crucial to consider how this practice affects both the company and the individual (Beauregard, Basile, and Canonico, 2013).

Work-life balance has become increasingly important in the last few years. Work-life balance is a crucial component of human resources in any kind of business. It was discovered that employees of the Chinese travel company Ctrip who worked from home completed 13.5% more calls than those who worked in an office. This implies that Ctrip received nearly one additional workday each week from them. Not surprisingly, at-home workers reported significantly higher job satisfaction, and the attrition rate was likewise half that which was predicted (Bloom, 2014).

Remote Work in Supporting the Company

There is proof that businesses profit from the usage of remote working. Enterprise-level productivity gains, retention gains, and cost-saving opportunities are all well-documented (Dockery A. M., 2017). For example, networking hardware manufacturer Cisco calculates that the company's yearly productivity gains from remote work amount to \$277 million (Bell, 2018). By 2020, computer technology giant Dell expects 50% of its employees to work remotely, at least part-time. This indicates that remote work has improved environmental conditions, reduced costs, and increased productivity (Mahadik, 2016).

However, other businesses—Yahoo, for example—have said that remote employment has disappointed them. According to the research, there may be a problem if there is an excessive emphasis on technology and insufficient attention to approaches (Carrion, 2016, pp. 4545 4551). In order to ensure the success of remote workers, businesses must focus on establishing a robust and transparent process of coordination and communication in addition to creating an engaging company culture (Pradhan, 2015).

Objectives of the Study

This research paper's primary goal is to concentrate on and comprehend how remote work affects an organization's perceptions among management and staff. The study's explicit goals are to find the correlation and assess how well it fits in with the South Indian workplace.

1. To determine the benefits of remote work in the IT industry. The effects of working remotely on output and quality of work.
2. To highlight the benefits of remote work and offer background and recommendations from upcoming research projects.
3. To learn about an employee's viewpoint on selecting the work-from-home option.
4. To assess the extent to which work-from-home policies contribute to greater job and employee satisfaction.
5. To assess how remote work affects employee retention.
6. To assess the requirements and demand for remote work in Madurai and draw conclusions about the local trend.

The benefits and drawbacks of working remotely are also highlighted in the report.

Research Hypothesis

To accomplish the study's objectives, the aforementioned research questions were suitably converted into pertinent research Hypothetical statements. Only the null hypotheses are underlined in the sequence of clarification, and the alternative hypotheses are saved for last, when the analysis is supposed to conclude and they are deemed to be true. As a result, the following hypothesis assertions are highlighted:

H01: Working from home practice has no positive and significant impact on a company's productivity in the IT industry in Madurai, India.

H02: Working from home practice has no positive and significant impact on the quality of work in the IT industry in Madurai, India.

H03: Working from home practice has no positive and significant impact on employee satisfaction in the IT industry in Madurai, India.

H04: Working from home practice has no positive and significant impact on employee retention in the IT industry in Madurai, India.

Scope of the Study

The purpose of the study is to find out how remote work has affected the South Indian IT sector. In plain sight, the study would examine the trend of remote work in Madurai, India, a densely populated metropolis. Additionally, it would weigh the benefits and drawbacks of remote work from the viewpoints of management and employees. This would enable us to have a comprehensive understanding of the views of telecommuting in the business world, with a focus on the IT industry. Three separate IT/ICT companies—CMACGM, Amazon India, and Merit Software Services—were selected as the study's population. The locations of these businesses are in Madurai, India. Three managers were interviewed to learn about their perspectives from the same three organizations, and 76 employees from the aforementioned three companies make up the sample for the quantitative research. To obtain associated opinions from management and staff, populations for both quantitative and qualitative study were selected from the same organizations. The research project was conducted from June to August of this year. This paper's further scope would be to carry out comparable studies in other regions of India. Given that Madurai city is the primary subject of this research. Additionally, workers in industries other than information technology can also be examined to contrast and evaluate how appropriate and long-lasting the idea of working from home is in those industries.

Research Design

The study uses a descriptive research strategy in the context of the quantitative research method to explain the relationships and effects of the variables being studied. In order to address the study topic and verify the hypothesis, 76 employees were surveyed in order to gather data. In order to link management opinions with the employers' sample, interviews with managers were conducted as part of the qualitative research. The Pearson coefficient formula (Schober, Boer, & Schwarte, 2018) is used to calculate correlation and assess the quantitative research's hypothesis. The employers of three distinct IT businesses in Madurai are the subject of this stratified sample technique. Interviews with managers were conducted as part of the qualitative sampling process inside the same three firms. The material gathered from semi-structured interviews was organized and given significance through the use of content analysis (Bengtsson, 2016). This approach was taken in order to derive practical insights from it.

Literature Review

Literature Introduction

One of the important chapters that sheds light on the subject of the study and informs readers about previous research projects undertaken by other scholars is the literature review. To determine the effectiveness of particular tasks within the company, a comparison between traditional and remote work environments will also be offered (Ranstand, 2016).

The first literary theme is "Working from Home: Improving Productivity and Quality of Work."

- Since working from home has resulted in a sharp rise in hours worked and a decrease in employee work stress, it is seen as a quality attribute of quality employment time. Additionally, it has made it possible for workers to adequately attend to other spheres of life.
- Moreover, it has been noted that workers of all genders prefer to work from home since they find it more comfortable and allow them to spend more quality time working on their jobs (Allen, 2015, pp. 40–68).

According to Bakshi, over half of professionals have quit their jobs or have thought about quitting since they don't offer the flexibility that millennials need from their jobs. In order to retain personnel and rebuild the corporate structure, these businesses must accept the challenges of controlling productivity and the company culture (Bakshi, 2017, p. 86). Businesses are complying

with the requests since contented employees who experience less stress are more likely to be productive (Carrion, 2016, pp. 4545 - 4551)

Data Analysis

Pie charts created in Microsoft Excel are used to display the analysis and visualization of the survey results. In order to test the hypothesis and determine whether work from home has a positive and substantial impact on variables like productivity, job quality, employee satisfaction, and staff retention, correlation analysis was utilized. In order to address the main research goals and provide answers to the research questions, the research findings and the literature were examined jointly.

Gender

For demographic purposes, the employees' gender was the only question answered. Sixty-four percent of the 76 employees who took part in the study were men and 36 percent were women. It was discovered that male employees made up the bulk of the participants. Nonetheless, there is a representation of both male and female personnel.

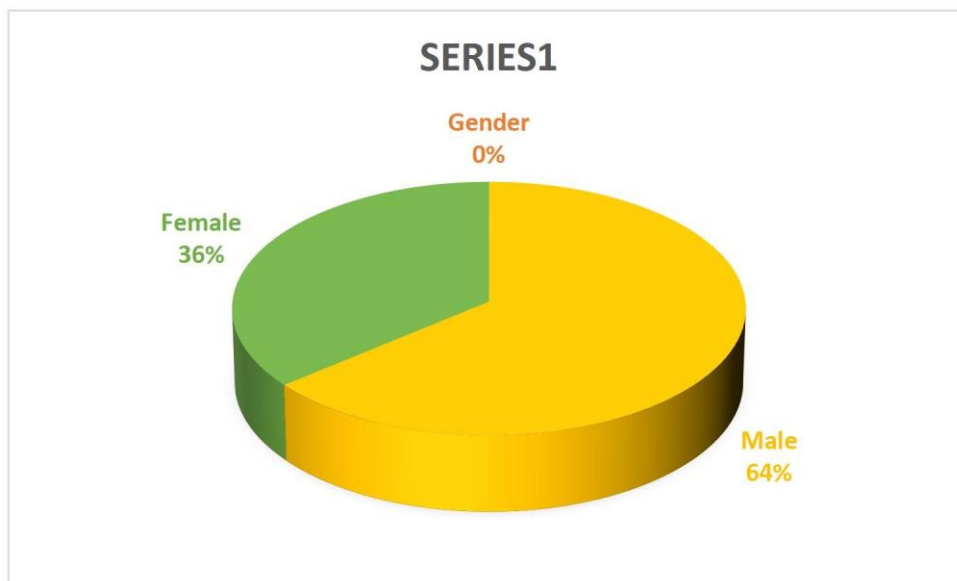


Table 1- Gender of the Respondents

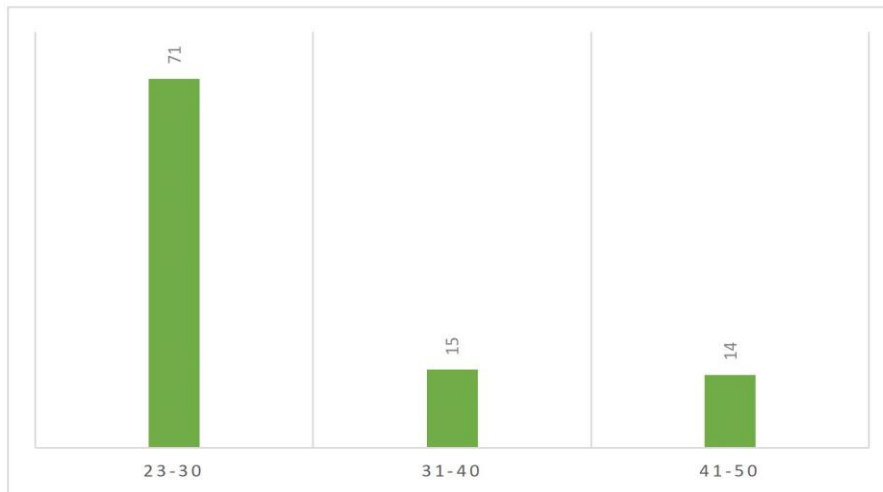


Table 2- Age of the Respondents

To learn more about the demographics of the staff, questions regarding age were posed to the employees. 15% of the workforce was in the 31–40 year old age range, while 71% of respondents were in the 23–30 year old range. The age range of 41 to 50 years old was only represented by 14% of the workforce. Workers of different ages took part in the poll. Since most of the responders were in the 23–30 age range, 3–8 years was the appropriate amount of experience.

Workplace preference

Among 76 respondents, 67% preferred to work from home, while 33% were less inclined to take this choice. This represents the preference percentage of employees that made this decision. The majority of workers said that they would rather work from home.

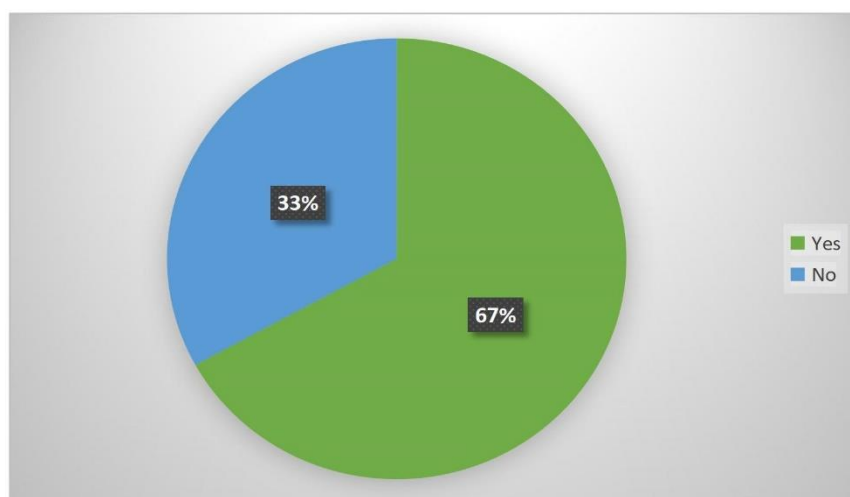


Table 3- Workplace Preference Anticipated days of employees preferring to work from home



Table 4- Anticipated days of employees preferring to work from home

The purpose of this inquiry was to find out how many days a week the employees expected to work from home. In this, 36% of the workers stated they work two to four days a week, while between 18% and 28% of the workers replied that they work one day a week or more from home, respectively. Lastly, 18% of workers say they don't like working from home. This indicates that most workers spend more time each week working from home than in the office.

Travel time to work by the employees

The purpose of this inquiry was to ascertain the daily commute distance traveled by the staff members to go to work. 46% of the employees travel more than 20 kilometers each day to get to work as a consequence of this survey question. 33 percent of the workers commute 11 to 20 km daily, while sixteen percent commute 5 to 10 km. Lastly, just 5% of workers commute fewer than 5 kilometers each day to get to work. The majority of workers spend a lot of time traveling to and from work, according to poll results.



Table 5- Travel time to work by the employees Major reason for choosing this option

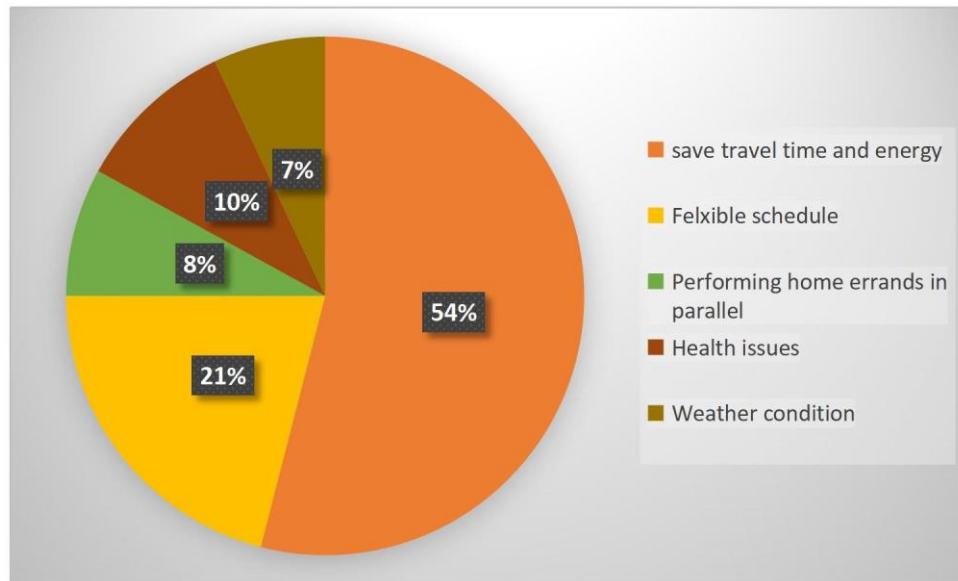


Table 6 Major reason for choosing this option

The majority of workers prefer working from home in order to save money, energy, and travel time, according to study data. Five-fourths of respondents selected this choice. Flexible scheduling was selected by the second largest group of respondents (21%), who chose this option. In addition to these choices, workers like working from home for other reasons, such as health concerns, running errands around the house concurrently, or weather circumstances that have a 10%, 8%, or 7% impact.

Focus on objectives and tasks when working from home

The purpose of this inquiry is to determine whether or not the workers' ability to concentrate on their goals and duties while working from home was affected. The employees who worked from home were able to concentrate better on their goals and tasks, according to the poll results. In comparison to the percentage of respondents who disagree and strongly disagree, the percentage of respondents who agree and strongly agree is 43% and 37%, respectively.

This is a very high percentage. Fifteen percent of respondents disagreed with the statement, and five percent strongly disagreed. As a result, when working from home, employees were more likely to focus on their jobs than when they were working in the office.

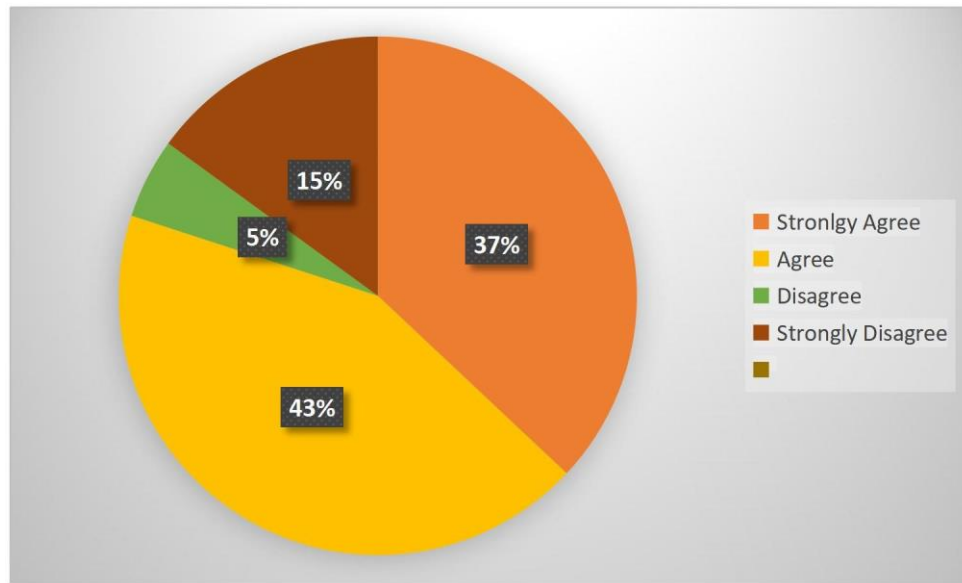


Table 7-Focus on objectives and tasks when working from home Impact of productivity when working from home

This question was intended to examine the productivity level of employees who work from home. The results unambiguously show that 64% of respondents believe that production rises in this situation, while 34% disagree. However, the vast majority of respondents believe that working from home increases their productivity.

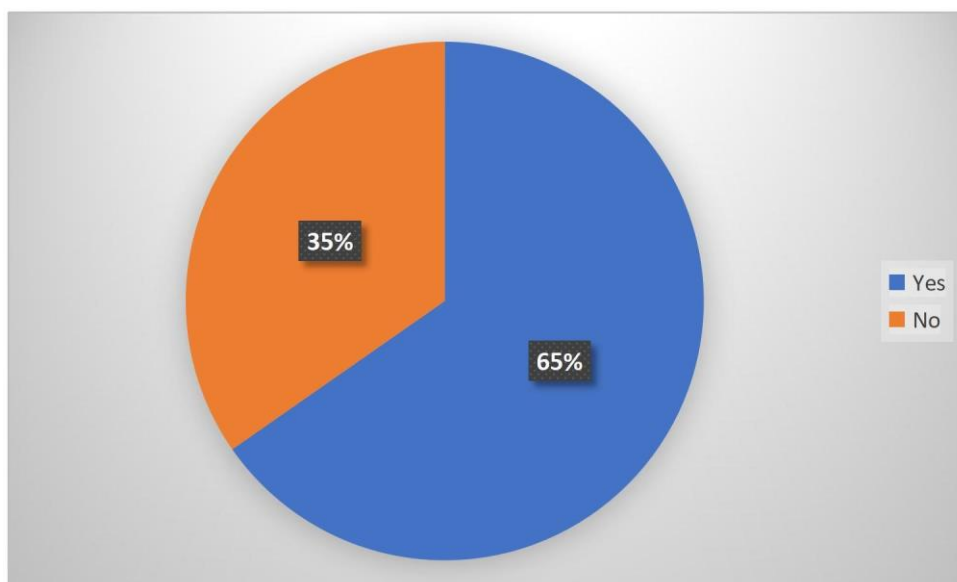


Table 8- Impact of productivity when working from home Productivity Scale of work

The productivity rating when working from home is represented by this scale chart, where about 20 respondents selected an 8 out of 10, 14 selected a 9 out of 10, and 11 selected a 10 out of 10.

This demonstrates unequivocally that workers' productivity levels rise when they work from home. The primary motivator for this is their perception of time, energy, and travel savings; the other two majorities are related to their perceptions of having a comfortable workspace and the absence of office distractions.

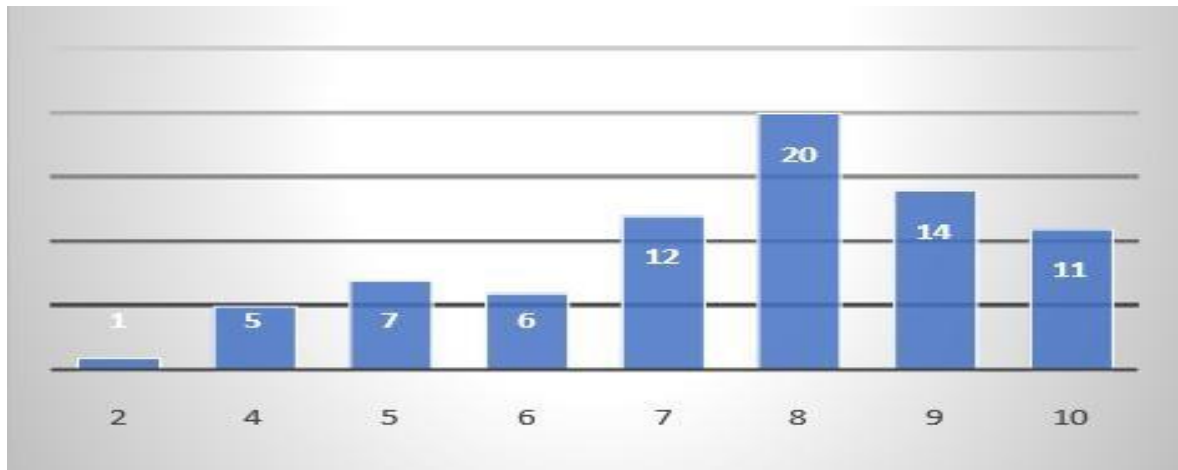


Table 9 Productivity Scale of work Impact of quality when working from home

It's clear from the comments below that the worker believes that producing work from home improves quality. 32% of respondents believe that working remotely has little effect on quality, despite the agreed-upon 68% improvement in quality. The majority of respondents selected the 7–10 scale after viewing the scale chart, indicating unequivocally that working from home improves quality.

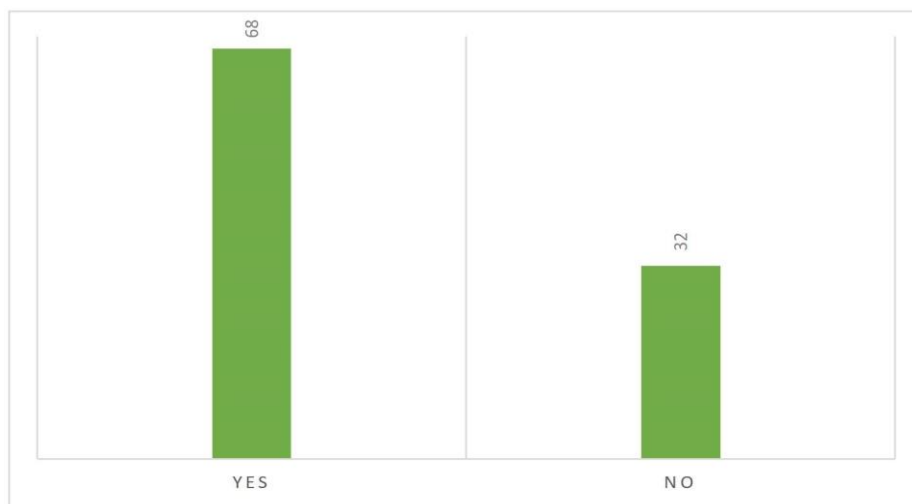


Table 10 Impact of quality when working from home

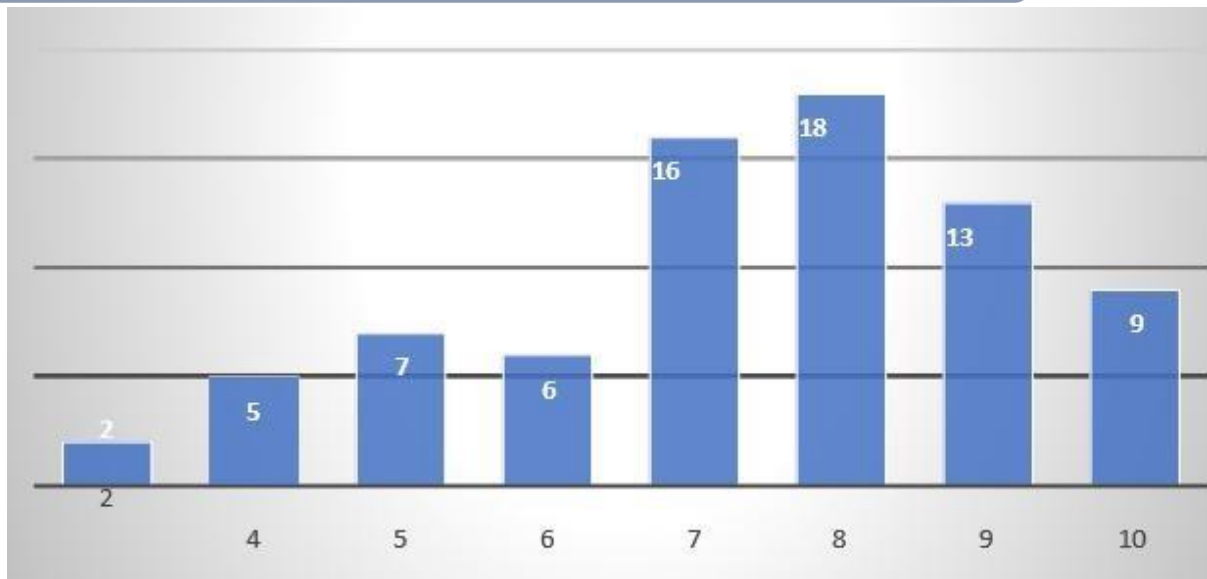


Table 11 Quality scale of work Employee Satisfaction and Retention doing remote work

This inquiry was made to find out if having the ability to work from home improves satisfaction in any manner. In order to understand the answers to this question, it is important to note that 41% of respondents strongly agree, and 38% agree, respectively, that working from home raises employee happiness. The percentage of workers who disagree and strongly disagree is 17% and 4%, respectively, which is significantly lower than the percentage of workers who concur that they are happy working from home.

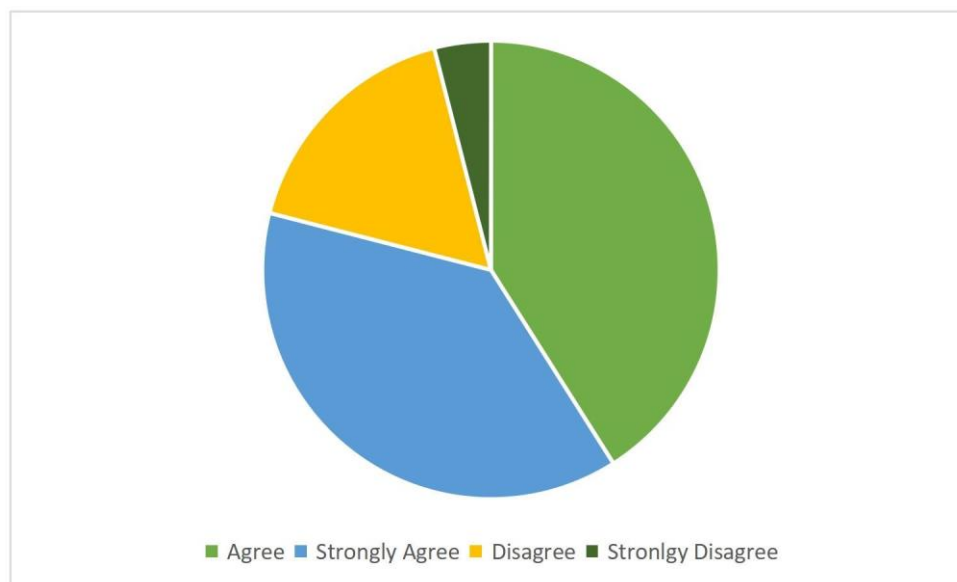


Table 12 Employee Satisfaction and Retention doing remote work Overall opinion on Work from home

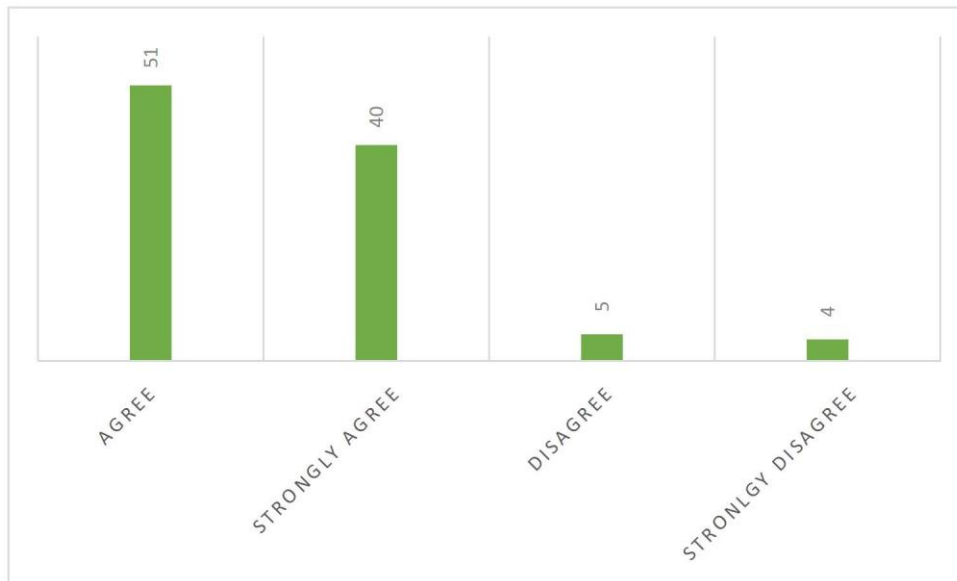


Table 13 Overall opinion on Work from home

Finally, the purpose of this question was to ascertain the general viewpoint of the employees who are selecting this option. The majority of respondents agree and strongly agree to have between 40% and 50%, and 91% of them report that they are happy as a result of selecting this option. As of now, just 9% of the workers disagreed. Overall, this alternative was highly regarded by the majority of employees.

Correlation Analysis Hypothesis 1:

H₀: Working from home practice has no positive and significant impact on a company's productivity in the IT industry in Madurai

H_a: Working from home practice has a positive and significant impact on a company's productivity in the IT industry in Madurai

Correlations			
		Work from Home	Increase in Productivity
Work from Home	Pearson Correlation	1	.638**
	Sig. (2- tailed)		.000
	N	76	76
Increase in Productivity	Pearson Correlation	.638**	1
	Sig. (2- tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed)			

Considering that the significance value is less than 0.05, the alternative hypothesis is accepted.

Working from home therefore has a beneficial effect on productivity.

Hypothesis 2:

H0: Working from home practice has no positive and significant impact on the employee's quality of work in the IT industry in Madurai

Ha: Working from home practice has a positive and significant impact on the employee's quality of work in the IT industry in Madurai.

Correlations			
		Work from Home	Increase in Quality of Work
Work from Home	Pearson Correlation	1	.563**
	Sig. (2- tailed)		.000
	N	76	76
Increase in Quality of Work	Pearson Correlation	.563**	1
	Sig. (2- tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed)			

Considering that the significance value is less than 0.05, the alternative hypothesis is accepted.

Working from home therefore has a beneficial effect on the caliber of output.

Hypothesis 3:

H0: Working from home practice has no positive and significant impact on the employee satisfaction in the IT industry in Madurai.

Ha: Working from home practice has a positive and significant impact on employee satisfaction in the IT industry in Madurai.

Correlations			
		Work from Home	Employee Satisfaction
Work from Home	Pearson Correlation	1	.721**
	Sig. (2- tailed)		.000
	N	76	76
Employee Satisfaction	Pearson Correlation	.721**	1
	Sig. (2- tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed)			

Given that the significance value is smaller than 0.05, the alternative hypothesis is accepted.

Therefore, working from home has an effect on employee satisfaction.

Hypothesis 4:

H0: Working from home practice has no positive and significant impact on the employee retention in the IT industry in Madurai.

Ha: Working from home practice has a positive and significant impact on employee retention in the IT industry in Madurai.

Correlations			
		Work from Home	Employee Retention
Work from Home	Pearson Correlation	1	.588**
	Sig. (2- tailed)		.000
	N	76	76
Employee Retention	Pearson Correlation	.588**	1
	Sig. (2- tailed)	.000	
	N	76	76
**. Correlation is significant at the 0.01 level (2-tailed)			

Given that the significance value is smaller than 0.05, the alternative hypothesis is accepted.

As a result, there is an effect on employee retention in businesses that have a work from home policy.

Findings of the Research

Employee productivity is higher while working from home than when working in an office setting, according to data gathered from managers. The results demonstrated that working remotely reduces travel time and shields employees from the stress that comes with long distance driving and traffic. According to O'Toole (2012), workers who work from home put in longer hours, take fewer breaks, and have been observed to take fewer sick days. This qualitative study employed three topics that emerged from the data analysis to obtain insights into a company's perspective on utilizing the work-from-home policy. These are "Remote work and its influences on employee satisfaction & retention," "Impact of Remote Work on Productivity and Quality of Work," and "Advantages and Disadvantages of Remote Work."

Conclusion

The impact of remote work on India's IT industry is discussed in this study. Thanks to information and communication technology, people can now operate more productively and successfully even when they are not physically present at their workplace workstations.

The study's objective was to comprehend, from the viewpoints of the individual and the business, how remote work affects variables such as productivity, quality of work, employee satisfaction, and staff retention. In doing this study, the researcher learned more about the remote work techniques used globally, and in Madurai, India in particular. The researcher conducted qualitative research by Skype interviewing managers who are corporate representatives in order to learn more about remote work. The researcher also undertook thematic literature evaluations. To gather the viewpoint of the employees, a survey was given to workers at three different organizations as part of quantitative study.

Correlation testing was utilized to validate the hypothesis based on the quantitative study data. According to the results, working remotely improves output and quality of work from the standpoint of the employees. The results also showed that working from home can have a favorable effect on employee satisfaction. The study also confirmed the hypothesis that increased employee retention might be attributed in large part to remote employment.

According to the qualitative study done to gain an understanding of the company's viewpoint, Madurai-based businesses have supported their employees' home work practices since they saw the benefits for their business. According to study, employees who work remotely are more productive and produce higher-quality work, which is something that companies can monitor. The study has shown that the habit of working from home has improved employee satisfaction. Additionally, according to the data, companies think that letting their staff members work from home has improved employee retention. This indicates that, from a business standpoint, remote work improves employee retention.

The study's overall conclusion advises Madurai, India's IT sector enterprises to embrace the work-from-home policy since it improves productivity, work quality, employee satisfaction, and employee retention—all of which are critical elements of a successful business.

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A Study on Role of Social Media in the Tourism Industry of Kovilpatti

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Introduction

The tourism industry has witnessed a significant transformation with the rise of social media platforms, which have become powerful tools for destination promotion and traveller engagement. In the context of Kovilpatti, a city rich in cultural heritage and modern attractions, social media plays a pivotal role in influencing tourist behaviour, shaping perceptions, and driving tourism growth. Platforms like Instagram, Facebook, and YouTube allow tourists to share experiences, discover new places, and make informed decisions based on reviews, recommendations, and visual content. Tourism businesses and government bodies in Kovilpatti are increasingly leveraging social media to create targeted campaigns, engage with potential visitors, and enhance brand visibility. Moreover, user-generated content has become an essential factor in promoting lesser-known destinations, enriching the overall tourism ecosystem. This study seeks to examine the impact of social media on the tourism industry of Kovilpatti, focusing on its influence on tourist preferences, marketing strategies, and the challenges in maintaining effective digital engagement.

Literature Review

The role of social media in the tourism industry has been a topic of increasing importance over the past decade, as digital platforms continue to transform the tourists plan, experience, and share their travel journeys. Numerous studies have explored the social media has influenced various aspects of tourism, including destination marketing, traveller behaviour, and tourism business strategies. In a study by Leung, Law, Hoof, and Buhalis (2013), social media was identified as a crucial tool for tourism businesses to engage with travellers, offering real-time communication and personalized experiences. Similarly, Hays, Page, and Buhalis (2013) emphasized the social media platforms such as Facebook and Instagram enable destination marketing organizations to reach broader audiences through user-generated content and viral marketing campaigns. Xiang and Gretzel (2010) examined the social media content impacts search engine visibility for tourism destinations, highlighting its role

in shaping tourist perceptions. A more recent study by Sigala (2018) expanded on this by discussing the social media fosters collaboration between tourists and tourism businesses, enhancing customer experiences and increasing brand loyalty. Kaplan and Haenlein (2010) offered a foundational understanding of the types of social media platforms and their use in business contexts, while Mangold and Faulds (2009) emphasized the role of social media in integrating traditional marketing with peer-to-peer communication. Additionally, Fotis, Buhalis, and Rossides (2012) explored the social media content affects the decision-making process of tourists. More recent studies, such as that by Almeida-Santana and Moreno-Gil (2017), have examined the tourists use social media before, during, and after their trips, influencing their travel experiences and post-travel sharing. Zeng and Gerritsen (2014) provided a comprehensive overview of the relationship between social media and tourism, noting its role in fostering information exchange among tourists. In the Indian context, Sharma and Nayak (2019) explored the social media marketing impacts domestic tourism, with a focus on platforms that highlight local attractions and cultural experiences. Similarly, Gupta and Shukla (2020) analysed the social media affects destination image and visitor behaviour, particularly in promoting emerging tourist destinations.

Objectives of the Study

- To assess the impact of social media platforms on tourists' decision-making processes and destination selection in Kovilpatti.
- To evaluate the effectiveness of social media marketing strategies employed by Kovilpatti's tourism stakeholders in enhancing visitor engagement and promoting local attractions.

Limitations of the Study

- The study is limited to Kovilpatti, which may restrict the generalizability of the findings to other regions with different tourism dynamics and social media usage patterns.
- With a sample of 200 respondents, the study may not capture the full diversity of opinions and behaviours among all tourists visiting Kovilpatti.
- Social media trends and algorithms evolve quickly, and the findings may become outdated as platforms introduce new features or as user behaviour shifts.
- The study relies on self-reported data from respondents, which could be influenced by biases such as social desirability or inaccurate recall of social media usage.
- The focus on major social media platforms like Facebook, Instagram, and Twitter may overlook the influence of niche or emerging platforms in shaping tourism behaviour.

Research Methodology

The study employs a quantitative research approach, using a structured questionnaire to collect data from 200 respondents who have engaged with social media platforms for tourism-related purposes in Kovilpatti. The questionnaire includes both closed-ended and Likert-scale questions to assess the respondents' social media usage patterns, the influence of social media on their travel decisions, and their perceptions of tourism marketing campaigns. A purposive sampling technique was used to ensure the participants were active social media users. Data analysis was conducted using statistical methods, focusing on descriptive statistics and correlation analysis to identify key trends and relationships.

Table 1: Demographic Profile of Respondents

Demographic Variables	Categories	Frequency	Percentage (%)
Age	18-25	50	25%
	26-35	70	35%
	36-45	40	20%
	46+	40	20%
Gender	Male	110	55%
	Female	90	45%

Source: Primary Data

The demographic profile of respondents reveals a diverse age distribution, with the majority (35%) falling within the 26-35 age group, indicating a younger audience engaging with social media for tourism. Males represent a slightly higher proportion (55%) compared to females (45%), suggesting a more active male presence in this context. This demographic insight indicates that social media may play a significant role in influencing the travel preferences of younger travellers in Kovilpatti. Additionally, understanding these demographics can help tourism stakeholders tailor their marketing strategies to better target their audience.

Table 2: Social Media Platform Usage

Platform	Frequency	Percentage (%)
Instagram	80	40%
Facebook	60	30%
YouTube	30	15%
Twitter	20	10%
Others	10	5%

Source: Primary Data

The data shows that Instagram is the most popular social media platform among respondents, with 40% using it for tourism-related activities, followed by Facebook at 30%. YouTube (15%) and Twitter (10%) have a smaller share, indicating a preference for visually-driven content over text-based updates. This preference underscores the importance of leveraging visual platforms in tourism marketing strategies to engage potential travellers effectively.

Table 3: Influence of Social Media on Travel Decisions

Statement	Mean	Standard Deviation
Social media influences my choice of destination	4.2	0.8
I rely on social media reviews before planning trips	4.0	0.7

Source: Computed Data

The results indicate a strong influence of social media on travel decisions, with a mean score of 4.2 for the statement "Social media influences my choice of destination," suggesting that respondents significantly consider social media when selecting travel locations. Additionally, a mean score of 4.0 for the reliance on social media reviews highlights the importance of user-generated content in trip planning. The relatively low standard deviations (0.8 and 0.7, respectively) indicate consistent responses among participants, reinforcing the notion that social media plays a crucial role in shaping travel behaviours. This finding emphasizes the need for tourism businesses to actively manage their social media presence and engage with potential travellers.

Table 4: Frequency of Social Media Use for Tourism Purposes

Frequency of Use	Frequency	Percentage (%)
Daily	90	45%
Weekly	70	35%
Monthly	30	15%
Rarely	10	5%

Source: Primary Data

The data shows that a significant portion of respondents (45%) use social media daily for tourism-related purposes, indicating a high level of engagement with these platforms. Additionally, 35% report using social media weekly, while only 15% and 5% use it monthly or rarely, respectively. This suggests that social media is a primary tool for frequent travel planning and information gathering, highlighting its critical role in the tourism industry.

Table 5: Social Media Features Used for Travel Planning

Feature	Frequency	Percentage (%)
Photos/Videos	110	55%
Reviews	60	30%
Recommendations	20	10%
Influencer Posts	10	5%

Source: Primary Data

The findings reveal that photos and videos are the most utilized features for travel planning on social media, with 55% of respondents highlighting their importance. Reviews are also significant, used by 30% of participants, indicating that user-generated feedback plays a vital role in shaping travel decisions. In contrast, recommendations and influencer posts are less influential, used by only 10% and 5% of respondents, respectively, suggesting that visual content is paramount in attracting and informing potential travellers.

Table 6: Perception of Social Media Marketing by Tourism Stakeholders

Statement	Mean	Standard Deviation
Social media ads by tourism businesses are informative	3.8	0.9
Tourism organizations effectively engage through social media	4.0	0.7

Source: Computed Data

The mean score of 3.8 for the statement "Social media ads by tourism businesses are informative" indicates a generally positive perception among respondents, suggesting that they find the content shared by these businesses valuable. Furthermore, a mean score of 4.0 for the effectiveness of tourism organizations in engaging through social media highlights a strong belief that these organizations successfully connect with their audience. The standard deviations (0.9 and 0.7, respectively) reflect a moderate level of agreement among respondents, emphasizing the importance of effective social media marketing strategies in the tourism sector.

Table 7: Correlation between Social Media Use and Tourism Behaviour

Variables	Correlation Coefficient (r)
Social media use & frequency of travel	0.65
Social media use & willingness to explore new destinations	0.70

Source: Computed Data

The correlation coefficient of 0.65 between social media use and the frequency of travel indicates a strong positive relationship, suggesting that increased engagement with social media is associated with more frequent travel among respondents. Additionally, a correlation coefficient of 0.70 between social media use and willingness to explore new destinations further emphasizes that active social media users are more likely to seek out new travel opportunities. These findings highlight the significant impact of social media on influencing both travel frequency and destination exploration, underscoring its role as a vital tool in modern tourism.

Table 8: Regression Analysis of Social Media Use on Travel Frequency

Variable	Coefficient (B)	Standard Error	t-Value	p-Value
Constant	1.50	0.30	5.00	<0.001
Social Media Usage	0.65	0.10	6.50	<0.001

Source: Computed Data

The regression analysis indicates that social media usage significantly predicts travel frequency ($p < 0.001$), with a coefficient of 0.65, suggesting that for each unit increase in social media usage, travel frequency increases by 0.65 units.

Table 9: Regression Analysis of Social Media Use on Willingness to Explore New Destinations

Variable	Coefficient (B)	Standard Error	t-Value	p-Value
Constant	1.80	0.25	7.20	<0.001
Social Media Usage	0.70	0.12	5.83	<0.001

Source: Computed Data

This regression analysis shows that social media usage significantly influences the willingness to explore new destinations ($p < 0.001$). The coefficient of 0.70 indicates that increased social media engagement is associated with a greater willingness to seek out new travel experiences.

Table 10: Factor Analysis of Social Media Features for Travel Planning

Factor	Item	Factor Loading
Factor 1: Visual Influence	Photos/Videos	0.82
	Reviews	0.68
	Influencer Posts	0.52
Factor 2: Social Proof	Recommendations	0.85
	Reviews	0.76

Source: Computed Data

Factor analysis reveals two main factors influencing travel planning: **Visual Influence** and **Social Proof**. The high factor loadings indicate that visuals (photos/videos) and social endorsements (reviews and recommendations) significantly impact the travellers make decisions.

Table 11: Summary of Factor Analysis Results

Factor	Number of Items	Explained Variance (%)
Visual Influence	3	45%
Social Proof	2	30%

Source: Computed Data

The summary table shows that the Visual Influence factor accounts for 45% of the explained variance, indicating its strong impact on travel planning. The Social Proof factor contributes 30%, highlighting the importance of reviews and recommendations in shaping travel behaviour.

Findings

- The majority of respondents using social media for tourism purposes are in the 26-35 age group, indicating that younger travellers are more engaged with social media platforms.
- Instagram emerged as the most popular social media platform among respondents, emphasizing the importance of visual content in influencing travel decisions.
- A significant number of respondents indicated that social media plays a crucial role in their choice of destinations and travel planning, with strong reliance on reviews and visual content.
- Most respondents use social media daily or weekly for travel-related purposes, highlighting its importance as a regular resource for travel information.
- Respondents generally view social media marketing by tourism businesses as informative and engaging, with strong perceptions of effective communication from tourism organizations.
- Regression analysis revealed a strong positive correlation between social media usage and both the frequency of travel and willingness to explore new destinations.

Suggestions

- Tourism businesses should focus on creating high-quality visual content, such as photos and videos, to attract and engage potential travellers on platforms like Instagram.
- Encouraging travellers to share their experiences and reviews can enhance credibility and attract more tourists, as potential travellers rely heavily on peer recommendations.

- Utilize demographic insights to tailor social media campaigns aimed at younger audiences, especially in the 26-35 age group, who are most active on social media for travel planning.
- Collaborating with social media influencers can help increase brand visibility and trust, particularly in reaching younger demographics that value influencer opinions.
- Tourism organizations should maintain consistent engagement with their audience on social media platforms to build a community and foster loyalty among travellers.

Conclusion

The study highlights the significant role of social media in shaping the tourism industry in Kovilpatti. The findings demonstrate that social media not only influences travel decisions but also acts as a critical resource for planning and information gathering. As travellers increasingly rely on platforms like Instagram for travel inspiration, tourism businesses must adapt their marketing strategies to align with these trends. By enhancing visual content, leveraging user-generated experiences, and actively engaging with potential travellers, tourism stakeholders can effectively harness the power of social media to boost their presence and attract more visitors to Kovilpatti. The insights gained from this study can serve as a foundation for further research and practical applications in the tourism sector.

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A Study on Navigating the AI-Driven Landscape – Redefining Consumer Choices in Digital Marketing

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Abstract

Artificial Intelligence (AI) has emerged as a transformative force in digital marketing, significantly altering consumer decision-making processes. This paper examines the impact of AI on consumer behaviour through a systematic review of recent studies, industry reports, and empirical research. AI technologies such as machine learning, natural language processing, and predictive analytics have revolutionized marketing by enhancing personalization, providing deeper customer insights, and simplifying decision-making. Personalization techniques, including recommendation systems and targeted advertising, have led to increased engagement and conversion rates. AI-driven analytics offer advanced methods for understanding consumer behaviour, enabling real-time adaptation of marketing strategies. Additionally, AI tools like chatbots and virtual assistants streamline decision-making by reducing cognitive load and providing instant, relevant information. However, the integration of AI in marketing also raises ethical concerns, particularly related to data privacy and consumer trust. Addressing these concerns through transparent data practices and fair algorithmic design is crucial for maintaining consumer confidence. The findings highlight the dual nature of AI's impact: while it offers substantial benefits in terms of personalization and efficiency, it also necessitates careful management of ethical issues. Marketers must invest in robust AI infrastructure, focus on high-quality data, and prioritize ethical practices to harness AI's full potential. Future research should explore the long-term effects of AI on consumer loyalty and brand perception, as well as the ethical implications of AI in different demographic contexts. Overall, AI has reshaped digital marketing by improving consumer interactions and decision-making processes, but balancing its advantages with ethical considerations remains essential for sustainable success.

Keywords: Artificial Intelligence (AI), Digital Marketing, Consumer Decision-Making

Introduction

Artificial Intelligence (AI) has quickly emerged as a transformative force in the digital marketing landscape. The integration of artificial intelligence technologies—such as machine learning, natural language processing (NLP), and predictive analytics—has revolutionized the way businesses interact with consumers and shape their decision-making processes. With AI's ability to analyse vast amounts of data and generate actionable insights, marketers can now deliver highly personalized experiences, streamline consumer decision-making, and increase overall marketing effectiveness.

This paper explores the profound impact of AI on consumer decision-making in the context of digital marketing. Based on an examination of recent studies, industry reports and empirical research, this study aims to provide a comprehensive understanding of how artificial intelligence influences consumer behaviour and the implications for marketing strategies. The paper is structured into sections including materials and methods, findings and results, interpretation and discussion, and concludes with a summary of key findings and recommendations for traders and businesses.

Materials and Methods

Data sources and selection criteria

This study uses a systematic review of secondary data sources to evaluate the impact of artificial intelligence on consumer decision making. Data sources include academic journals, industry reports, and professional articles accessed through databases such as Google Scholar, JSTOR, Emerald, and ResearchGate. Selection criteria for included studies were based on relevance to AI applications in marketing, publications within the past five years, and use of empirical research methodologies. These resources have been selected to provide a thorough and up-to-date analysis of the impact of AI on consumer behaviour.

Data extraction and analysis

Data extraction involved identifying key themes and findings related to the impact of AI on consumer behaviour. A thematic analysis approach was used to categorize the insights into major themes such as personalization, convenience, customer insights, trust, ethical considerations and marketer implications. This approach provided a comprehensive view of the role of AI in shaping consumer decision-making and ensured that both the benefits and challenges of integrating AI into digital marketing were thoroughly explored.

Interpretation and Discussion

Personalization and consumer engagement

The findings highlight the significant impact of AI-driven personalization on consumer engagement. By analysing large datasets, AI tailors marketing messages and recommendations to individual preferences to make them more relevant and appealing to consumers. This level of personalization not only drives immediate sales, but also sustains it over the long term-long-term customer loyalty by creating a shopping experience that is uniquely tailored to each consumer. The positive correlation between personalization and consumer engagement underscores the importance of AI in modern marketing strategies.

Convenience and simplified decision making

AI simplifies the decision-making process by giving consumers instant access to relevant information and personalized recommendations. Convenience provided by AI tools such as chatbots and virtual assistants improves the overall shopping experience by reducing cognitive load and helping consumers navigate complex decisions more efficiently. This convenience translates into higher purchase completion rates and greater consumer satisfaction as consumers feel supported and guided throughout their shopping journey.

Ethical considerations and consumer trust

Ethical considerations, especially those related to privacy and consumer trust, are critical to the successful implementation of artificial intelligence in digital marketing. The findings suggest that while AI has the potential to revolutionize marketing strategies, its success largely depends on how well businesses manage and address ethical issues. Consumers are increasingly aware of how their data is collected and used, and any perceived misuse can lead to a significant breach of trust. Businesses must therefore prioritize ethical data practices to maintain and build consumer trust.

Transparency is key to addressing these ethical issues. Businesses should be upfront about how they use consumer data and provide clear and understandable privacy policies. In addition, they should implement AI systems that are designed to be fair and unbiased, ensuring that all consumer segments are treated fairly. By fostering an environment of trust and transparency, businesses can alleviate potential consumer concerns about AI and the use of data, thereby increasing the overall effectiveness of their AI-driven marketing strategies.

Implications for traders

Integrating AI into digital marketing strategies has far-reaching implications for marketers. As AI continues to evolve, marketers must adapt to the new possibilities and challenges AI presents. The findings highlight several key implications for marketers:

1. **Investment in AI infrastructure:** To fully exploit the potential of AI, marketers need to invest in robust IT infrastructure and data management systems. This includes not only the technology infrastructure needed to implement AI, but also the human expertise needed to manage and interpret AI-driven insights.

2. Focus on data quality: The effectiveness of AI-driven marketing strategies is directly related to the quality of the data used. Marketers must prioritize the collection and maintenance of high-quality and accurate data to ensure that AI systems can provide reliable and actionable information.

3. Ethical Marketing Practices: Marketers must be aware of the ethical implications of AI and strive to use AI in a way that is fair, transparent and respectful of consumer privacy. This includes ensuring that AI algorithms are not biased and that consumers are fully informed about how their data is being used.

4. Adaptability and Agility: The dynamic nature of AI-driven marketing requires marketers to be agile and responsive to changes in consumer behaviour and preferences. By leveraging AI's real-time analytics capabilities, marketers can quickly adjust their strategies to stay relevant in a rapidly changing digital landscape.

5. Building consumer trust: Trust is a critical success factor for AI-driven marketing strategies. Marketers must work to build and maintain consumer trust by being transparent about data usage and ensuring that consumers perceive AI-driven interactions as valuable and rewarding.

Future research directions

The impact of artificial intelligence on consumer decision making in digital marketing is a rapidly evolving field and there are several areas that require further research. Future studies could explore the long-term effects of AI-driven personalization on consumer loyalty and brand perception. In addition, research into the ethical implications of AI, particularly in terms of data privacy and algorithmic fairness, is essential as AI is increasingly integrated into marketing strategies.

Another area for future research is the impact of AI on different consumer demographics. Understanding how AI-driven marketing affects different consumer segments, such as different age groups, socio-economic backgrounds or cultural contexts, could provide valuable insights for marketers looking to tailor their strategies to different audiences.

Findings and Results

The integration of AI into digital marketing strategies has led to several key findings regarding its impact on consumer decision-making. These findings are organized into the following topics:

Improved personalization

Artificial intelligence technologies have greatly improved the personalization of marketing efforts, allowing businesses to tailor their offers to individual consumer preferences. By analysing extensive consumer data, including browsing history, purchasing patterns and demographic information, AI algorithms can deliver highly personalized recommendations and content.

Personalization techniques

Artificial intelligence-based personalization includes various techniques such as recommendation systems, targeted advertising and dynamic content generation. Recommender systems use algorithms such as collaborative filtering and content-based filtering to suggest products or services based on user behaviour and preferences. Targeted advertising uses artificial intelligence to deliver relevant ads based on consumer interests and past interactions. Dynamic content generation makes it possible to create personalized websites, emails and other forms of digital communication that meet the individual needs of consumers.

Impact on consumer behaviour

Personalized marketing strategies have been shown to significantly influence consumer behaviour, leading to increased engagement and higher conversion rates. Research shows that personalized recommendations can increase conversion rates by up to 30%, proving the effectiveness of AI in increasing sales. In addition, personalized experiences foster long-term customer loyalty by creating a shopping experience that is uniquely tailored to each consumer, increasing their overall satisfaction and the likelihood of repeat purchases.

Improved customer statistics

AI-based analytics provide deeper insights into consumer behaviour and enable marketers to better understand their audience. By leveraging machine learning algorithms, businesses can uncover patterns and trends that traditional analytics might miss and offer a more nuanced understanding of consumer preferences and behaviour.

Advanced analytical techniques

Artificial intelligence uses various techniques such as clustering, classification and regression analysis to extract insights from consumer data. Clustering algorithms group together consumers with similar characteristics, allowing marketers to target specific segments with tailored messages.

Classification algorithms predict consumer behaviour based on historical data, allowing businesses to predict future actions. Regression analysis examines the relationships between variables and consumer outcomes and provides insight into the factors that most strongly influence purchase decisions.

Adaptation in real time

One of the key benefits of AI-driven analytics is the ability to adapt marketing strategies in real time. For example, dynamic pricing algorithms adjust product prices based on demand and competitor prices, optimizing revenue and competitiveness. Real-time analytics allow companies to better align their marketing campaigns with consumer expectations and increase overall efficiency. This ability to respond quickly to changes in consumer behaviour ensures that marketing efforts remain relevant and effective.

Simplified decision making

Artificial intelligence simplifies the consumer decision-making process by providing instant access to relevant information and personalized recommendations. Features such as chatbots and virtual assistants improve the shopping experience by offering timely assistance, reducing cognitive load and helping consumers make informed decisions more efficiently.

Chatbots and virtual assistants

Chatbots and virtual assistants with artificial intelligence play a vital role in improving customer service and streamlining the decision-making process. These tools can handle routine queries, guide product selection, and offer personalized recommendations based on consumer preferences and past behaviour. The immediacy and accuracy of the assistance provided by these AI tools helps consumers navigate their shopping journey more efficiently, leading to higher satisfaction and an increased likelihood of completing purchases.

Reduction of cognitive load

AI tools reduce cognitive load by providing consumers with relevant information and suggestions at the right time. This reduction in cognitive effort makes it easier for consumers to make decisions and increases the likelihood of completing a purchase. For example, AI-driven product recommendations based on a consumer's browsing history can simplify the decision-making process by narrowing down options to those most relevant to the individual. As a result, consumers are more likely to engage with marketing content and complete their purchases.

The influence of trust and perceived value

The effectiveness of AI in digital marketing is influenced by consumer trust and perceived value. Consumers are more likely to engage with AI-driven marketing efforts when they perceive the technology to be reliable, secure and beneficial.

Building trust in AI systems

Trust in AI systems is critical to their success in marketing. Consumers are more inclined to share personal data and engage in AI-driven strategies when they trust the technology to handle their information safely and use it responsibly. Brands that build and maintain trust through transparent data practices and clear communication about how AI is used are more likely to foster positive relationships with their customers.

Perceived value

Perceived value plays a key role in determining consumer adoption of AI-driven marketing strategies. Consumers are more likely to engage with brands that provide valuable and relevant content through AI systems. Marketing messages that deliver perceived value – such as personalized offers, recommendations or content – lead to higher engagement and conversion rates. This value can be further enhanced when consumers feel that AI tools help them save time, make better decisions, or discover products that truly meet their needs.

Ethical considerations and consumer concerns

The rise of artificial intelligence in digital marketing raises ethical concerns related to data protection, consumer autonomy, and algorithmic fairness. Many consumers are concerned about how their data is collected, used and protected, which may affect their willingness to engage with AI technologies.

Personal data protection issues

Data privacy concerns are among the most significant challenges facing businesses using AI-driven marketing services. Consumers are increasingly aware of the extent to which companies collect, analyse and use their personal data. Many fear the potential misuse or breach of their data, leading to reluctance to share information or engage in AI-driven marketing strategies. To address these concerns, businesses must implement transparent data practices, clearly communicate their data usage policies, and give consumers control over their personal data.

Solving ethical problems

Addressing ethical issues is critical to maintaining consumer trust and ensuring the long-term success of AI in digital marketing. Businesses should adopt responsible data practices that ensure AI algorithms are designed and implemented in a way that favors fairness, transparency and accountability. This includes preventing biases in artificial intelligence algorithms that could lead to unfair treatment of certain groups of consumers, providing clear privacy policies and offering consumers options for managing their data. By proactively addressing these ethical concerns, businesses can build stronger and more trusting relationships with their customers.

Impact on purchase intentions

The impact of AI on consumer purchase intentions is significant, as AI-based marketing strategies such as personalized recommendations and targeted advertising significantly increase the likelihood that consumers will make a purchase.

Personalization and purchase intentions

Personalized marketing strategies have a direct impact on consumers' purchase intentions. By delivering relevant and timely offers, AI-driven recommendations and targeted advertising can significantly increase the effectiveness of marketing campaigns, leading to higher conversion rates and increased sales. Research shows that consumers are more likely to act on personalized marketing messages, especially when they perceive the content to be valuable and aligned with their interests and needs.

Targeted advertising

AI-based targeted advertising improves purchase intent by reaching consumers with ads that closely match their interests, behaviours and preferences. This ad targeting accuracy not only improves ad effectiveness, but also improves user experience by reducing exposure to irrelevant or intrusive ads. Studies have shown that targeted advertising can significantly improve conversion rates, benefiting businesses through increased sales and customer engagement.

Conclusion

The integration of artificial intelligence into digital marketing has significantly influenced consumer decision-making, offering improved personalization, greater convenience and raising important ethical considerations. Artificial intelligence technologies, including recommendation

systems, predictive analytics, and chatbots, have changed the way businesses interact with consumers and influence their purchasing behaviour.

AI's ability to deliver highly personalized marketing experiences has been shown to increase consumer engagement and conversion rates, leading to both immediate sales and long-term loyalty. By simplifying the decision-making process through instant access to information and AI recommendations, it enhances the overall shopping experience and improves purchase completion rates.

However, the rise of artificial intelligence in marketing also presents challenges related to privacy and consumer trust. Businesses must address ethical issues by implementing transparent data practices and prioritizing consumer privacy. Balancing the benefits of AI with the need for ethical considerations is critical to maintaining consumer trust and achieving marketing success.

To fully exploit the potential of AI, marketers must invest in a robust IT infrastructure, high-quality data collection methods and clear communication strategies. By understanding and addressing the dynamics of AI's impact on consumer decision-making, businesses can develop effective consumer-centric marketing approaches that build trust, drive engagement and ensure relevance in the evolving digital landscape.

Finally, AI has revolutionized digital marketing by improving personalization, streamlining decision-making and increasing critical ethical considerations. As AI technologies continue to evolve, marketers must strike a balance between personalization and privacy to ensure long-term success in the ever-changing digital marketplace.

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Cryptocurrency's Next Frontier: Shaping the Future of Digital Transactions

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Abstract

The rapid evolution of cryptocurrency is reshaping the digital financial landscape, unlocking new possibilities for secure, borderless, and decentralized transactions. As blockchain technology advances, cryptocurrencies are expanding beyond mere payment systems to fuel innovations in decentralized finance (DeFi), smart contracts, and tokenized assets. This paper explores the next frontier of cryptocurrency, focusing on emerging trends such as enhanced scalability, interoperability, sustainable consensus mechanisms and evolving regulatory frameworks. By analyzing the impact of these developments on financial systems, businesses and global economies, this research aims to provide a forward-looking perspective on how cryptocurrencies will redefine digital transactions and drive the future of a decentralized economy.

Keywords: DeFi, BTC, ETH, BNB, Non-Fungible Tokens, Market Cap

Introduction

What is Cryptocurrency?

Cryptocurrency is a type of digital or virtual currency that uses cryptography for security and operates on decentralized networks based on blockchain technology. Unlike traditional currencies issued by governments, cryptocurrencies are typically not controlled by any central authority, making them decentralized and resistant to government interference or manipulation.

Cryptocurrency is a digital or virtual form of currency that relies on cryptographic technology for security and operates on decentralized networks, primarily using blockchain. Unlike traditional fiat currencies issued by governments, cryptocurrencies are not controlled by any central authority, making them decentralized and resistant to manipulation. Transactions are recorded on a public ledger, ensuring transparency while maintaining user anonymity. One of the key features of cryptocurrency is its ability to facilitate peer-to-peer transactions without intermediaries like banks. Many cryptocurrencies, such as Bitcoin, have a limited supply, which helps maintain value and prevent inflation.

Popular cryptocurrencies include Bitcoin (BTC), the first and most widely recognized digital currency, Ethereum (ETH), which enables smart contracts and decentralized applications (DApps), and Binance Coin (BNB), used primarily within the Binance ecosystem. Other notable cryptocurrencies include Cardano (ADA) and Solana (SOL), which focus on scalability and security. Cryptocurrencies have various applications, including digital payments, investment, decentralized finance (DeFi), smart contracts, and non-fungible tokens (NFTs), which represent unique digital assets.

Table 1: Comparison of Normal and Cryptocurrency Transactions

Feature	Normal Transactions	Cryptocurrency Transactions
Control	Centralized (Banks, Governments)	Decentralized (No central authority)
Transaction Speed	Slow (Can take hours or days)	Fast (Minutes or seconds)
Availability	Limited (Banking hours, holidays)	24/7 (Anytime, anywhere)
Intermediaries	Banks, payment processors (e.g., Visa, PayPal)	No intermediaries (Peer-to-peer)
Privacy	Requires personal details (KYC)	Anonymous (Uses wallet addresses)
Fees	High (Bank fees, international charges)	Low (Depends on the network, but often cheaper)
Security	Can be reversed or frozen by banks	Irreversible once confirmed
Fraud Risk	Can be hacked, charged back, or manipulated	Secure via cryptography, hard to hack
Cross-Border Transfers	Expensive & slow	Fast & low-cost
Record Keeping	Controlled by banks, can be modified	Stored permanently on blockchain, cannot be changed

Despite their growing popularity, cryptocurrencies face challenges such as price volatility, regulatory uncertainty, security risks, and environmental concerns related to energy-intensive mining processes. However, as technology advances and adoption increase, cryptocurrencies continue to shape the future of digital finance, offering new opportunities for global transactions, innovation, and decentralized economic systems.

Key Features of Cryptocurrency

1. **Decentralization** – Most cryptocurrencies operate on blockchain technology, a distributed ledger maintained by a network of computers instead of a central authority.
2. **Security & Encryption** – Cryptocurrencies use cryptographic techniques to secure transactions and control the creation of new units.

3. **Transparency** – Transactions are recorded on a public ledger, making them visible and verifiable by anyone while ensuring anonymity for users.
4. **Limited Supply** – Many cryptocurrencies, like Bitcoin, have a fixed supply, which prevents inflation and increases scarcity over time.
5. **Peer-to-Peer Transactions** – Cryptocurrency allows direct transactions between users without intermediaries like banks.

Popular Cryptocurrencies

- **Bitcoin (BTC)** – The first and most well-known cryptocurrency, created by Satoshi Nakamoto in 2009.
- **Ethereum (ETH)** – A blockchain platform that enables smart contracts and decentralized applications.
- **Binance Coin (BNB)** – A cryptocurrency used primarily within the Binance ecosystem.
- **Cardano (ADA)** – A blockchain that focuses on security, sustainability, and scalability.
- **Solana (SOL)** – Known for its high-speed transactions and scalability.

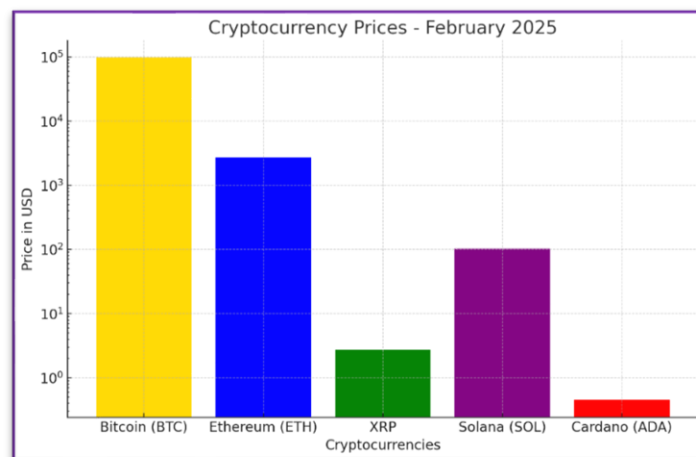


Figure 1: Cryptocurrency Prices in February 2025

Uses of Cryptocurrency

- **Digital Payments** – Used as an alternative to fiat money for online and offline purchases.
- **Investment & Trading** – Many people buy cryptocurrencies as an investment, hoping their value will rise over time.
- **Decentralized Finance (DeFi)** – Provides financial services like lending, borrowing, and staking without traditional banks.

- **Smart Contracts** – Self-executing contracts with the terms of the agreement directly written into code.
- **NFTs (Non-Fungible Tokens)** – Unique digital assets representing ownership of art, music, and virtual items.

Methodology

Cryptocurrency transactions involve a series of steps that ensure secure and verifiable transfer of digital assets between parties over a decentralized network.

1. Transaction Creation:

Initiation: A user initiates a transaction through their cryptocurrency wallet, specifying the recipient's address and the amount to be sent.

Digital Signature: The transaction is signed with the sender's private key, authenticating the sender and ensuring the transaction's integrity.

2. Broadcasting to the Network

Propagation: The signed transaction is broadcast to the cryptocurrency's peer-to-peer network, reaching multiple nodes (computers) that maintain the blockchain.

3. Verification and Validation

Consensus Mechanism: Nodes validate the transaction using consensus algorithms like Proof of Work or Proof of Stake, ensuring the sender has sufficient funds and the transaction adheres to network rules. **Inclusion in a Block:** Once validated, the transaction is grouped with others into a block, which is added to the blockchain.

4. Confirmation

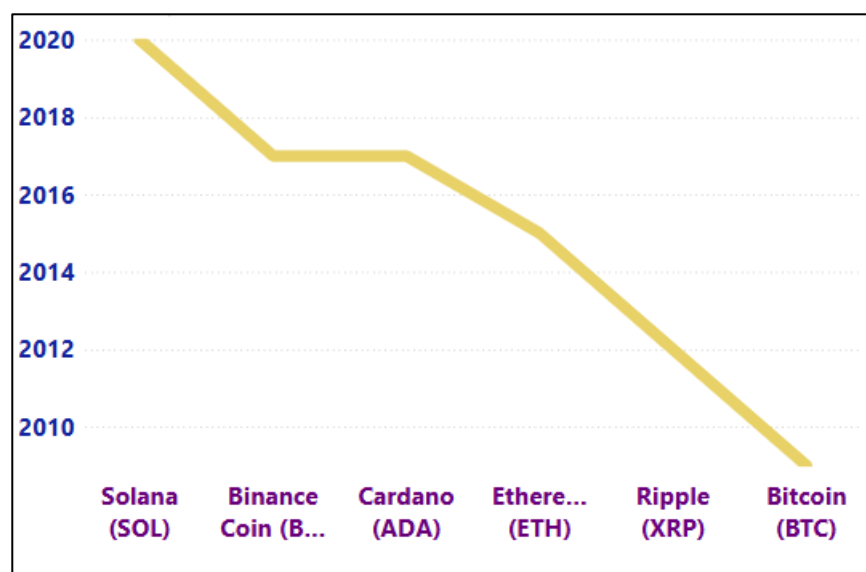
Network Agreement: The addition of the block is confirmed by the network, making the transaction permanent and tamper-proof.

Finality: Depending on the cryptocurrency, multiple confirmations may be required to consider the transaction fully settled.

Table 2: Comparison of Cryptocurrencies

Key points	Bitcoin (BTC)	Ethereum (ETH)	Binance Coin (BNB)	Solana (SOL)	Cardano (ADA)	Ripple (XRP)
Launch Year	2009	2015	2017	2020	2017	2012
Consensus	PoW	PoS	PoS	PoH + PoS	Ouroboros PoS	Federated Consensus
Transaction Speed	~7 TPS	~30 TPS	~100 TPS	~65,000 TPS	~250 TPS	~1,500 TPS
Market Cap Rank	1	2	3-5	5-10	5-10	5-10
Max Supply	21M	Unlimited	200M	508M	45B	100B

While all cryptocurrencies aim to decentralize finance, their differences in transaction speed, scalability, security, and regulatory challenges shape their use cases. Bitcoin remains the leader in value storage, Ethereum dominates smart contracts, Binance Coin powers exchange-based ecosystems, Ripple targets financial institutions, Cardano focuses on research-backed blockchain advancements, and Solana prioritizes speed and efficiency. As blockchain technology evolves, these cryptocurrencies continue to compete and innovate in the digital financial landscape.

**Figure 2: Founding year of Cryptocurrencies**

Challenges & Risks:

- **Volatility** – Cryptocurrency prices can be highly unpredictable.
- **Regulation** – Governments around the world are still developing legal frameworks for cryptocurrencies.

- **Security Risks** – Hacking, fraud, and scams are common in the crypto space.
- **Environmental Concerns** – Some cryptocurrencies, like Bitcoin, require large amounts of energy for mining.

Conclusion

Cryptocurrency is rapidly reshaping the future of digital transactions by offering decentralized, secure, and efficient financial systems. As blockchain technology evolves, cryptocurrencies have the potential to revolutionize various industries beyond finance, including supply chain management, healthcare, and digital identity verification. However, widespread adoption depends on overcoming regulatory challenges, enhancing security measures, and addressing scalability issues.

The next frontier of cryptocurrency lies in fostering mainstream acceptance, integrating with traditional financial systems, and improving transaction efficiency. Innovations such as central bank digital currencies (CBDCs), decentralized finance (DeFi), and layer-2 scaling solutions will play a crucial role in shaping the future of digital transactions. While risks such as volatility and regulatory uncertainty remain, the long-term potential of cryptocurrency suggests a transformative shift toward a more inclusive and borderless financial ecosystem.

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The Generative AI in Ecommerce, Education, Banking and Finance

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Abstract

Generative AI, or Gen AI, is a subset of artificial intelligence technology that creates something new from a dataset of previous examples. Generative AI (Gen AI) is a transformative technology with the potential to revolutionize various sectors, including e-commerce, education, banking, and finance. This abstract explores the impact, benefits, and challenges of implementing GenAI in these fields. GenAI enhances personalized marketing, customer service, and inventory management by leveraging data-driven insights. In the education sector, Gen AI facilitates personalized learning experiences, automates administrative tasks, and improves accessibility. AI-driven tools can engage students and provide tailored educational content. GenAI significantly impacts fraud detection, risk management, and customer service in the banking and finance industry. It enhances operational efficiency and enables smarter trading strategies.

Keywords: *Generative AI, Data security, Generative Adversarial Networks, Product recommendations.*

Introduction

Prior getting into the concept, first we should know what it is generative AI? Generative AI uses artificial intelligence (AI) to create content, insights, and solutions for banking and finance. It can automate tasks, improve customer service, and detect fraud.

In finance and banking, it is used for multiple purposes to improve the efficiency of employees, save time, minimize errors, and more. Generative AI, such as Generative Adversarial Networks (GANs), Variational Auto encoders (VAEs), and other generative models, transforms the financial and banking sector by helping bankers and financial institutions.

In both e-commerce and education, generative AI functions as a powerful tool to create new content, personalize experiences, and automate tasks, allowing businesses and educators to generate tailored product descriptions, marketing materials, and learning materials based on individual user data, significantly improving customer engagement and student learning outcomes.

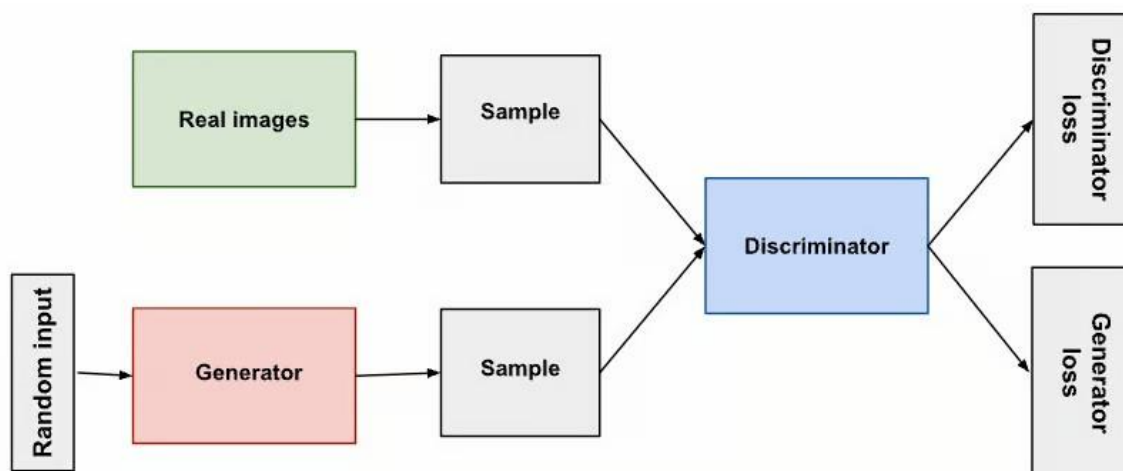
Workings of Generative AI

Generative AI all started with a prompt! Generative AI starts with a prompt that could be in the form of text, an image, a video, a design, musical notes, or any input that the AI system can process. This prompt can be manually input by the user (for example, using GPT-3 to generate text based on the user input) or automated (for example, Style GAN is a generative adversarial network (GAN) that can generate high-quality images based on a dataset of images.)

There are several types of generative models that are commonly used in machine learning, including Generative Adversarial Networks (GANs), Variation Auto encoders (VAEs), and Transformer-based models. Here's a brief overview of each type:

Generative Adversarial Networks (GANs)

GANs are a type of neural network that consists of two parts: a generator and a discriminator. The generator handles generating new data, while the discriminator is responsible for deciding whether the data is real or fake. The two parts are trained together in a process known as adversarial training, where the generator tries to produce data that the discriminator cannot distinguish from real data.



Variation Auto encoders (VAEs)

VAEs are another type of neural network used for generative modelling. They work by encoding input data into a lower-dimensional space and then decoding it back into the original space. The encoder and decoder are trained together to minimize the difference between the original data and the reconstructed data.

Transformer-based models

Transformer-based models are commonly used for natural language processing tasks. They work by processing sequences of input data and generating sequences of output data. Transformer-based models are particularly useful for generating text, such as product descriptions or customer reviews.

Training the models

All of these models learn from data to generate new instances. During the training process, the models are fed a large dataset of examples and learn to find patterns and relationships within the data. Once the model has been trained, it can be used to generate new instances by sampling from the learned distribution.

A GAN might be trained on a dataset of images and learn to generate new images similar to the ones in the dataset.

A VAE might be trained on a dataset of faces and learn to generate new faces that are similar to the ones in the dataset. And a transformer-based model might be trained on a dataset of product descriptions and learn to generate new descriptions that are similar in style and content to the ones in the dataset.

Overall, these generative models are powerful tools for generating new content and data, and they are widely used in a variety of applications.

Impact of Generative AI in E-Commerce

Generative AI (Artificial Intelligence) is a topic that has been making a ton of headlines in recent years. What once was limited to research labs and universities is now making its way into domain-specific industries like finance, healthcare, education, eCommerce, and many more. Generative AI refers to a type of artificial intelligence that involves the use of algorithms to generate new data or content.

Tech-savvy businesses, new and old, can gain an advantage over their competitors by learning how to use this innovative technology. As we have all seen in the recent media, we are very much at the forefront of an arms race among companies to integrate artificial intelligence into their platforms.

Generative AI has many applications in E-Commerce, and businesses are using it to personalize the customer experience, improve their operations, and increase sales. Here are some of the areas in which E-Commerce organizations are using generative AI:

Product recommendations

One of the most common applications of generative AI in eCommerce is product recommendations. Businesses can use generative models to analyse customer data and generate personalized recommendations for each customer. For example, Amazon uses generative AI to generate personalized product recommendations for its customers based on their browsing and purchase history.

Personalization

Generative AI can also be used to personalize the customer experience in other ways, such as by generating personalized content or customizing the user interface. For example, a business might use generative AI to generate personalized product descriptions or to customize the layout of its website based on each customer's preferences.

Customer Engagement

Customer engagement can also be improved by creating virtual assistants and chatbots that can provide personalized support and recommendations. For example, a business might use generative AI to create a chatbot that can answer common business-related questions like requesting access to a system or requesting annual leave.

Content Generation

AI can be used to generate a wide range of content for E-Commerce businesses, including product descriptions, reviews, and ads.

Generative AI in E-Commerce Case Studies

Amazon

First on the list, and I'm sure no surprise to anyone reading, Amazon is getting involved with generative AI. Amazon uses generative AI to generate personalized product recommendations for its customers visiting the site. On top of this, rather than release chatbots like its nearest rivals at Microsoft (ChatGPT) and Google (bard), they have taken a different angle by utilizing its dominance in the cloud

space via AWS (Amazon Web Services) to release two new AI language models on its platform, Bedrock.

Bedrock will allow customers to use Amazon's machine learning models without their data being leaked back into the wider pool of information used to train those systems. This should address one key concern for organizations that want to build their own generative AI products.

Future Prospects of generative AI in ecommerce

Generative AI has many applications in various domains, but one of the most promising and exciting ones is E-Commerce, with many future prospects on the horizon.

Augmented reality and virtual reality

AI can be paired with VR & AR to provide customers with more immersive shopping experiences. For example, a generative AI-powered AR app could help customers visualize furniture in their own homes before making a purchase.

Product discovery

Generative AI can help customers find the products they want or need more easily and efficiently. For example, generative AI can create realistic and diverse product images based on textual descriptions or sketches, allowing customers to visualize their desired products better. The technology can also generate personalized product recommendations based on customer preferences, behaviour, and feedback, increasing customer satisfaction and loyalty.

Customer engagement

Businesses can use AI to communicate with their customers more effectively and creatively. For example, using tools like **stable diffusion**, Customer can create engaging and relevant content for social media platforms, blogs, newsletters, or ads, attracting more traffic and conversions. Generative AI can also generate natural and human-like responses for chatbots or voice assistants, providing better customer service and support.

Fraud prevention

AI can help businesses detect and prevent fraudulent activities or attacks on their E-Commerce platforms more effectively and accurately. For example, AI tools can create synthetic identities or faces

for verification purposes, making it harder for impostors or bots to access the platform. Generative AI to generate realistic and diverse data for training or testing purposes, improving the performance and robustness of fraud detection models.

Impact of Generative AI in Education

Using generative AI in education means that one can support learning with the help of these AI-powered systems to deliver content and instructions, ask questions, evaluate performance, etc.

Benefits of Generative AI in Education

The advantages of using generative AI in education are far-reaching listed below;

1. Creating academic content and materials.

With the help of generative AI, it is easier to produce academic resources. Such resources include study materials, question banks, exercises, etc. An AI quiz generator is also a great way to gain material. Generative AI used to produce eBooks to support learning. Using AI to create content also makes it easier to offer a wide range of learning materials that meet the tastes of students and teachers alike.

2. Tailor learning experiences to individuals.

There's more to using generative AI in education than just creating reading materials faster. An individual can introduce AI to their curriculum-building process. This enables to customize the content of the materials. AI to analyse students' learning styles, preferences, and potential. Based on the analysis, the AI can suggest customized learning materials, exercises, and activities to the students. These tailored experiences can improve the overall learning experiences of the students, which will in turn make them perform better.

3. Improve learner engagement via creativity.

Improving creativity is one of generative AI's strongest suits. Hence, AI can be a great tool for pushing and encouraging students to explore their creative side. Whether it is writing, music, drawing, or painting, AI can be a great enabler. When this happens, students can explore their self more freely and improve their confidence in their creative pursuits. Building such high confidence levels makes them more committed and engaged in their learning processes, whatever they are.

4. Ensuring instant feedback and adaptive learning.

Academic institutes began to realize that adaptive learning can change how we use AI in education. With the help of this technique, quick analysis of academic content and evaluation of students is possible. As this can happen continuously and without much intervention from humans, it makes sense to use it in education for a faster feedback loop as well. Instead of waiting for weeks or months to evaluate a student, institutes can evaluate the performance of students regularly using AI. This leads to faster, more efficient intervention programs.

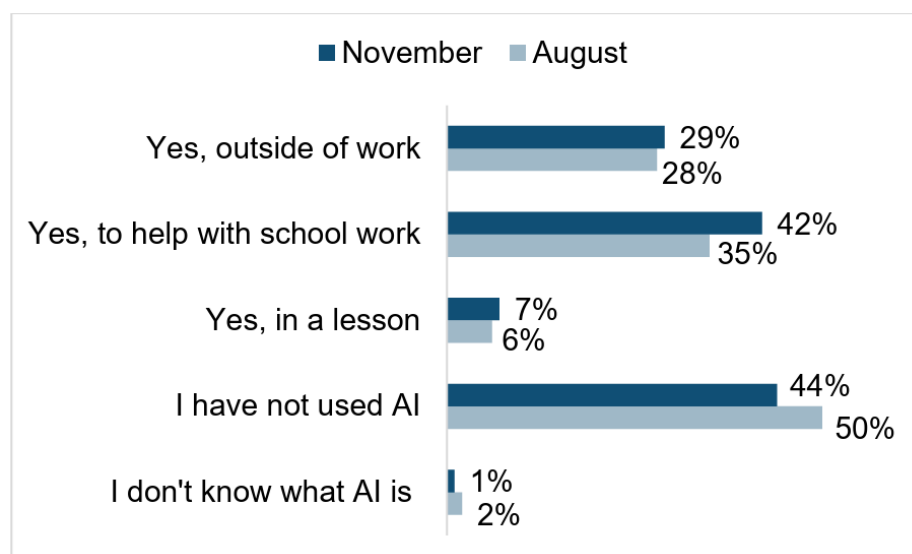
5. Help teachers improve their skills and performance.

Along with the learners, teachers also need to train to perform their job well. However, not all teachers require the same type of training or training in the same area. Some teachers may be good with students while not so great at teaching. There may be teachers who are good at teaching but fall back in interpersonal communications. Using AI, institutes can determine the training needs of the teachers. Based on the analysis, user can arrange for training to ensure maximum benefit.

Impact of generative AI in education sector

According to a survey from Teacher Tapp in November, 42% of primary and secondary teachers have now used GenAI to help them with schoolwork (see Figure 1).¹³ This has increased from 35% in August and 17% in April.^{14 15} In comparison to the wider public, around a quarter of the UK consumers (aged 16-75) had used a GenAI tool in June 2023.

Figure 1 - Adoption of GenAI for Education among School Teachers



Source: Teacher Tapp.

Primary and secondary teachers. Question asked in August (n=9,138) and in November (n=9,275). Results weighted to reflect national teacher and school demographics. Respondents could select multiple “yes” options.

Role of Generative AI in Finance and Banking

Generative AI, or GenAI, is playing a crucial role in the finance and banking industry. From streamlining operations to predicting financial trends, the potential is limitless.

Leading banks and financial institutions worldwide are embracing this technology and have already implemented it into their systems to harness the benefits of GenAI.

Impact of Generative AI in Finance and Banking

1. Synthetic Financial Data Creation

Generative AI plays a crucial role in creating synthetic financial data. In simple words, mock data is used for training generative AI models in situations when real-world data is unavailable or limited. Moreover, this synthetic data is used for understanding upcoming financial trends, stock market movements, finding investment opportunities, and more.

2. Detecting and Preventing Financial Frauds

Last year, 3 men were arrested for defrauding approximately \$10 million from US banks and financial institutions. Generative AI has a significant role in tackling and preventing such situations, and AML (anti-money laundering). Trained on normal transaction behaviours, genAI easily detects abnormalities in transactions and alerts banks and financial institutions about potential fraud and unauthorized transactions.

3. Credit Risk Assessment and Underwriting

Another role of generative AI in the banking and financial sector is credit risk assessment and underwriting. Trained genAI models analyse the credit history of the loan seekers and based on their insights, provide detailed reports. Using these detailed reports, finance firms and banks evaluate the creditworthiness of the borrowers, and make better and more accurate lending decisions.

4. Financial Reports Generation

Generative AI also helps bank executives with generating financial reports, presentations, client proposals, etc. This speeds up the internal operations of banks and finance firms, resulting in more productivity and saving time.

5. Personalized Financial Products and Services

Personalization is the new tactic of all banking and financial institutions to retain their clients. Hence, they leverage the best generative AI tools to understand client's needs and create personalized financial products, such as mutual funds, loans, and investments, tailored to their specific needs. Also, bankers and finance professionals use technology to offer financial services, such as asset management and insurance, fulfilling the needs of their clients, and providing them with enhanced banking experience.

6. Targeted Marketing

Leading finance firms and banks use generative AI for target marketing. GenAI helps marketers to analyse client preferences, and help them create and promote financial products and services tailored to their specific needs.

Generative AI helps finance executives understand the demand and accordingly, they supply the particular product or service in the market.

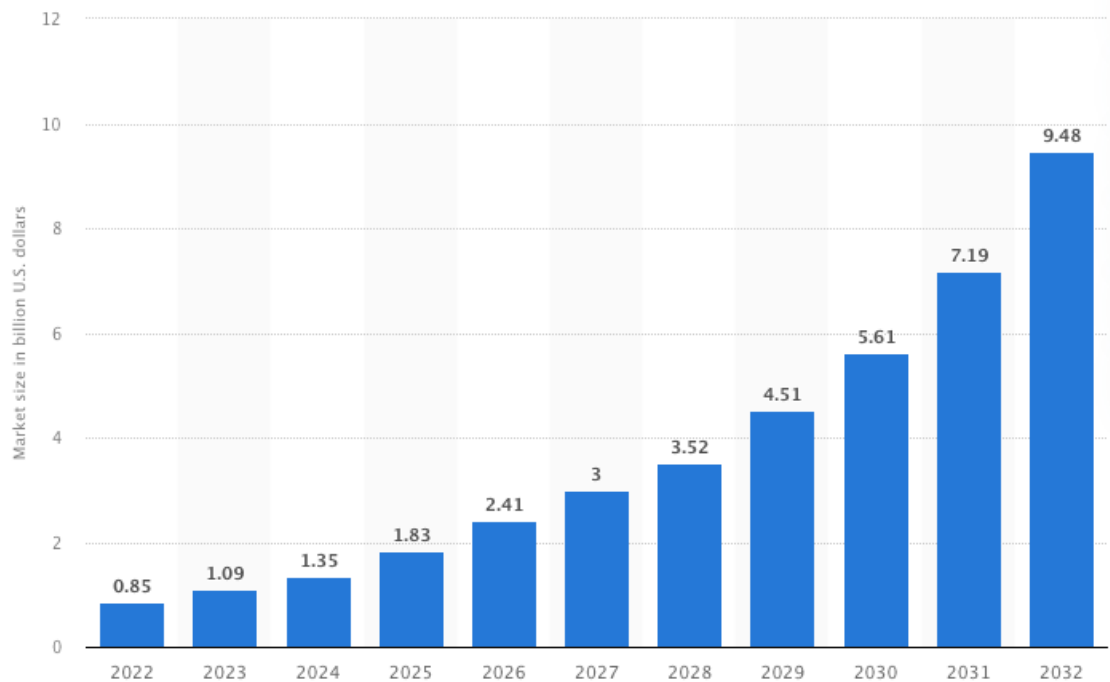
7. Chatbots and Virtual Assistants

Generative AI empowers chatbots and virtual assistants in the finance and banking sectors. Custom genAI-powered chatbots and virtual assistants help finance manpower by enhancing customer support, streamlining account management, and providing accurate data-backed financial pieces of advice.

These are the roles generative AI plays in the finance and banking industry. In coming years, it is expected that we witness genAI in more finance-related operations, enhancing client satisfaction and financial services provider efficiency

Statistics on Impact of Genai in Banking and Finance

Generative AI is at the initial stage in terms of usage in the finance and banking sectors. However, the following statistics show that more finance businesses will leverage generative AI in the coming years.



Source: Statista

Interpretation

- The financial services industry is expected to see a CAGR of 28.1% for generative AI between 2022 and 2032. Based on this CAGR, the market for generative AI is expected to reach \$9.4 billion in 2032, up from approximately \$0.85 billion in 2022.
- McKinsey report shows that AI has the potential to raise the global banking sector's total value by up to \$1 trillion every year.
- According to a survey, 78% of financial institutions are implementing or planning for Gen AI integration.
- The Economist Intelligence Unit states that 77% of bank executives believe that GenAI is helpful in gaining a competitive advantage.
- North America is expected to dominate the generative AI in the banking and finance market size from 2023 to 2032.

Top Banks and Financial Institutions Leveraging Generative AI

Several top banks in India are leveraging generative AI to enhance their operations and customer experiences. Here are some notable examples:

- **State Bank of India (SBI):** SBI uses an AI-powered smart chat assistant called SIA, developed by Payjo. SIA handles customer inquiries and everyday banking tasks, processing nearly 10,000 inquiries per second.
- **HDFC Bank:** HDFC has implemented an AI chatbot named Eva, built by Sense forth AI Research. Eva works with Google Assistant on Android devices to solve customer queries and has answered over five million user queries with more than 85% accuracy.
- **ICICI Bank:** ICICI Bank has deployed software robotics in over 200 business processes, handling nearly 2 million transactions daily. This initiative has significantly improved efficiency and reduced operational costs.
- **Axis Bank:** Axis Bank uses an AI-powered bot called AXAA, which allows customers to address their banking issues anytime, anywhere through a conversational interactive voice response (IVR) system.

Challenges of Generative AI

Generative AI (GenAI) is transforming various sectors, but it also comes with its own set of challenges. Here are some key challenges in e-commerce, education, and banking and finance:

E – Commerce

- **Data Privacy:** Preventing data breaches is a top priority for e-commerce businesses. Handling vast amounts of customer data requires robust security measures.
- **High Investment:** Implementing GenAI solutions can be costly, especially for small businesses.
- **Computational Power:** Multi-vendor e-commerce stores require significant computational power to run GenAI models.
- **Ethical Considerations:** Ensuring that AI systems are fair and unbiased is crucial.
- **Data Quality:** The effectiveness of GenAI depends on the quality of data it is trained on.
- **Integration:** Integrating GenAI into existing systems can be complex and time-consuming.

Education

- a) **Academic Integrity:** Students can misuse GenAI tools to complete assignments, leading to concerns about cheating and plagiarism.
- b) **Bias in AI Solutions:** AI models can inherit biases from the data they are trained on, leading to unfair outcomes.

- c) **Training Costs:** Developing and maintaining AI tools can be expensive.
- d) **Lack of Human Elements:** Over-reliance on AI can reduce the human interaction that is essential in education.
- e) **Privacy and Data Security:** Protecting student data is critical, and any breach can have serious consequences.
- f) **Scalability:** Implementing AI solutions across different educational institutions can be challenging.
- g) **Regulation and Governance:** Ensuring compliance with regulations and ethical standards is essential.

Banking And Finance

- a) **Data Privacy and Security:** Handling sensitive financial data requires stringent security measures.
- b) **Regulatory Compliance:** Banks must navigate complex regulatory landscapes to ensure compliance.
- c) **Bias and Unethical Behaviour:** AI models can reflect and magnify biases present in the training data.
- d) **Integration Challenges:** Integrating AI into existing banking systems can be difficult.
- e) **Skill Gap:** There is a shortage of skilled professionals who can develop and manage AI systems.
- f) **Ethical Considerations:** Ensuring that AI systems are transparent and fair is crucial.

Generative AI holds great potential, but addressing these challenges is essential for its successful implementation across different sectors.

Conclusion

GenAI holds immense promise across e-commerce, education, and banking and finance. By addressing the unique challenges in each sector, stakeholders can harness the power of AI to drive innovation, efficiency, and improved user experiences. Embracing ethical considerations and robust governance frameworks will be crucial in realizing the full potential of GenAI.

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Impact of Artificial Intelligence on Consumer Behaviour in Online Shopping

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Abstract

The future of shopping, which is rapidly changing now, is online shopping. However, internet shopping did not emerge suddenly. These are the historical foundations that make internet buying the most convenient way to shop. Its development was prompted by several innovations. With the use of a web browser, online shopping is a special kind of electronic commerce, or e-commerce, which links buyers and sellers worldwide. E-Commerce is quickly incorporating artificial intelligence (AI) into its operations. By automating procedures, enhancing productivity, and raising revenue, it may open up new doors for eCommerce companies. Businesses may increase their efficiency and profitability by utilizing the many advantages that artificial intelligence for eCommerce offers. Businesses can use AI-driven solutions to gain insights about customer behavior and preferences by leveraging massive data from past purchases and customer interactions. Businesses can use this information to better customize their goods and services to their clients' demands. So the researcher aims to study the impact of AI on Consumer Behaviour in Online Shopping.

Keywords: Artificial, Behaviour, Consumer, Intelligence, Impact Online, Shopping.

Background of Online Shopping

The future of shopping, which is rapidly changing now, is online shopping. However, internet shopping did not emerge suddenly. These are the historical foundations that make internet buying the most convenient way to shop. Its development was prompted by several innovations. With the use of a web browser, online shopping is a special kind of electronic commerce, or e-commerce, which links buyers and sellers worldwide. These days, it's not unusual to find internet retailers that show potential buyers a variety of products along with details, features, images, and costs. Consequently, an internet store may take one of two types. The first is as a business-to-customer (B2C) store. The second is as a business-to-business (B2B) web store. In any case, everyone who has access to the World Wide Web has shopped online.

History of Online Shopping

Michael Aldrich, an English inventor, created electronic shopping. He created the first type of e-commerce in 1979, enabling online transaction processing between businesses and their clients as

well as between businesses. The second significant factor supporting online commerce was the creation of the World Wide Web, or the first web browser, in 1990. There wouldn't be an online marketplace at all without a networked internet. Tim Berners Lee is responsible for this amazing invention, which we name the "WWW." SSL or Secure Sockets Layer is an encryption-based internet security technology that was created by Netscape in 1994. SSL reduces or eliminates the possibility of information sharing on the internet being intercepted. Sensitive information must be sent straight to the internet retailer when making an online purchase. This implies that we are transmitting sensitive data, such as credit card numbers, to servers via routers. SSL makes guarantee that no dishonest servers hold our data while it is being transmitted. SSL is usually necessary for almost all online financial transactions due to its security.

The biggest shift in online commerce occurred in 1995. Online markets were initially created. First came Jeff Bezos's Amazon.com, which is perhaps the largest online marketplace. Indeed, with an estimated net worth of \$115 billion as of 2019, the richest man in the world cannot be a monopoly, therefore eBay.com joined the fray. Fortunately, eBay changed its name from Auction Web at the time. Every one of these online

Online shopping once a pipe dream was suddenly becoming a reality. Alibaba.com, a well-known Chinese marketplace, was founded in 1999 by Jack Ma, a man who failed at many things. Google Adwords, an advertising tool that enables businesses to post ads in Google search results related to viewers' search preferences, was introduced at the turn of the twenty-first century in 2000. To put it another way, Google brought together buyers and sellers on a larger scale.

Online purchasing was forever altered by another little but significant notion. Low-capital sellers were able to open online stores in 2004 thanks to Shopify, a well-known online storefront service. Just as Word Press is to websites, Shopify is to online retailers.

PayPal introduced a new method for consumers to use their mobile devices to swap money and make purchases online in 2006. It is evident that the entire internet has transformed into a virtual retail mall as of 2020. It's safe to assume that we live in the age of online commerce since so many people prefer to conduct business on Facebook, Instagram, and WhatsApp.

AI in Ecommerce

E-Commerce is quickly incorporating artificial intelligence (AI) into its operations. By automating procedures, enhancing productivity, and raising revenue, it may open up new doors for eCommerce companies. Businesses may increase their efficiency and profitability by utilizing the many advantages that artificial intelligence for eCommerce offers. Businesses can use AI-driven solutions to gain insights about customer behavior and preferences by leveraging massive data from past purchases and customer interactions. Businesses can use this information to better customize their goods and services to their clients' demands.

Objective of the Study

The researcher aims to assess how AI is influencing consumer behavior, from product discovery to post-purchase actions.

Key Areas of Impact

Personalized shopping Experience

Customer data can be analyzed by an AI algorithm to generate tailored product recommendations. AI is able to make product recommendations that are customized to the preferences of each individual client by utilizing previous data, including browsing history, past purchases, and demographic data. Offering individualized shopping experiences and making tailored recommendations can boost sales.

Chatbots and virtual assistants

By providing easily accessible, customized support and interactions through automated dialogues, chatbots and virtual assistants play a vital role in consumer engagement. They enable businesses to respond to customer inquiries, make product recommendations, and handle transactions around-the-clock, ultimately enhancing customer satisfaction and experience while collecting useful data for well-informed decision-making.

By offering prompt, individualized, and accessible support, chatbots and virtual assistants can have a big impact on customer satisfaction and trust. This can result in better customer experiences, shorter wait times, and the ability to answer questions around-the-clock, which will ultimately improve brand perception and foster customer trust. However, their efficacy depends on their

capacity to comprehend and respond to complex questions accurately while being open about their limitations as AI systems.

Chatbots and virtual assistants can make it much easier for people to buy things by giving them immediate, personalized help, answering their questions, suggesting products, walking them through the buying process, and addressing their concerns in real time. This builds trust in the product and ultimately leads to a purchase.

Dynamic pricing and offers

AI is a big part of dynamic pricing and offers because it uses data analysis to change prices in real time based on market demand, competition, and how sensitive customers are. The goal is to find the best pricing strategies and make the most money while also keeping customers loyal and happy through targeted offers and price changes. However, if this isn't done carefully, too many price changes can hurt customer perception and loyalty.

Consumer behavior Analytics

Behavioral Targeting:

- **Data analysis:** AI algorithms look at things like a person's location, social media interactions, browsing history, and buy history to figure out what they like and how they usually act.
- **Personalized marketing:** Based on this data, AI can deliver targeted ads, product recommendations, and promotional offers specifically tailored to each customer's interests and needs.
- **Dynamic pricing:** AI can adjust prices based on real-time customer behavior and market conditions, potentially influencing purchase decisions.

Influence on Decision Making

- **Predictive analytics:** AI can figure out what a customer is most likely to buy next, so companies can offer them choices that are relevant to their needs.
- **Customer journey mapping:** AI can track a customer's interactions across multiple channels to identify pain points and optimize the shopping experience.
- **Social Proof:** AI can leverage social data to display reviews and recommendations from similar customers, influencing purchase decisions.

Impact on Shopping Frequency and Spending:

- **Increased engagement:** Customized suggestions and appropriate marketing messages can get people more involved, which can make them happier and more satisfied.
- **Cross-selling and up selling:** AI can identify opportunities to suggest complementary or higher-priced products based on past purchases.
- **Customer loyalty:** By providing a highly personalized experience, AI can foster customer loyalty and repeat purchases.

Enhanced user experience

Visual Search

Users can take a picture of an item and quickly find similar products online. This saves time because users don't have to type in long search queries. This makes finding products faster and easier, especially for home decor and fashion.

Augmented Reality (AR)

AR overlays digital information onto the real world, allowing users to virtually try on clothes, visualize furniture in their space, or get directions with real-time visual guidance, creating a more immersive and personalized experience.

Natural Language Processing (NLP)

AI-powered search engines interpret natural language queries, allowing users to ask inquiries in a conversational manner and receive relevant answers without having to develop ideal keywords.

Personalized Recommendations

AI can make personalized recommendations for products, information, or services based on user data and historical behavior, increasing the relevancy of search results and user satisfaction. **5.5**

Reduced Search Time

Visual search and AI-powered comprehension significantly reduce the time required to find the necessary information or product, resulting in a more efficient user experience.

Improved Accessibility

AI technologies such as voice search and visual search can enhance information accessibility for individuals with disabilities.

Positive Effect of AI on Consumer Behaviour

➤ **Personalized marketing:**

AI may evaluate consumer data to provide personalized adverts and product suggestions based on interests and past purchases, resulting in more relevant experiences for customers.

➤ **Improved customer service:**

AI-powered chatbots offer 24/7 support, increasing efficiency and accessibility

➤ **Enhanced product discovery:**

AI algorithms can recommend things based on a customer's wants and tastes, introducing them to new items they may not have explored before.

➤ **Real-time insights:**

AI offers real-time insights into consumer behavior, enabling firms to instantly modify marketing strategies and product offerings to current trends.

➤ **Price optimization:**

AI can optimize rates depending on demand and customer behavior, potentially providing better offers for consumers.

➤ **Convenience and ease of use:**

AI-powered technologies, such as voice search and automated checkout, can improve user convenience.

Challenges and Concerns

Lack of knowledge

It makes sense that this would be among the most difficult challenges for marketers to overcome. They must understand the most recent data-related industry developments, obstacles, and laws, as well as how AI may particularly impact digital marketing. Many people do not currently know much about AI because it is a relatively new and complicated topic. Fears and misconceptions about AI stem from this ignorance; for example, some people think that navigating AI requires an entire data science team.

AI-Integration

AI tools are not little applications that fit well into old systems. No, coding may even be necessary, and completely new interfaces must be established up. Data must be entered, labeled, and stored by developers before data infrastructure can be put in place. To make sure your AI tool is effective and produces high-quality outcomes, models must be trained and evaluated. Implementing this into legacy systems, which frequently lack the proper structure, can be challenging. They may, in fact, lack the robust technology needed to handle the massive amounts of data that AI produces and must store. Nonetheless, a lot of platforms have taken action to facilitate the integration of AI.

Training and costs

As was already established, it can be expensive to integrate new AI systems with their legacy counterparts. Small and mid-sized enterprises just cannot afford this. Fortunately, we can use native cloud apps to outsource our AI requirements and lower the cost. The training necessary to get the most out of our AI tools is something that cannot be overlooked. Our tools are worthless unless they have been trained to support our marketing objectives, regardless of how costly or comprehensive they are.

Data

Massive amounts of data are needed for AI tools. But not all data are made equally. Using precise and high-quality data is crucial for training our AI systems. This appears to include obtaining information from trustworthy sources. If not, this may hinder AI understanding and produce subpar outcomes. Like the previous point, this difficulty is manageable; simply make sure we're using high-quality data by paying attention and taking extra time.

Data collection

Data collection and data policies have been heavily impacted in the EU by GDPR (General Data Protection Regulation). Since 2018, GDPR has tightened regulations around how data is collected as well as how it's stored. In essence, users need to be aware of when, how, and why their data is being used by our company, and they cannot be tracked by their data either. Modern "netizens" are aware of their rights, and the regulatory authorities are on their side. For all these reasons and more, it pays to collect data in an ethical and law-abiding way. Indeed, more and more customers are rewarding ethical companies with loyalty.

Lack of creativity

Let me conclude by cautioning that AI is not as creative as humans. When it comes to automating repetitive tasks, this might not be a problem, but it is crucial to keep in mind if we are incorporating AI into digital marketing campaigns. To put it briefly, the content might not have the instinct and feeling that people inherently bring to campaigns, which is frequently what viewers identify with the most. There are also concerns about the ethics of generating AI art, which marketers should be aware to. In light of this, AI techniques should currently only be applied to share data-driven insights. They shouldn't take the place of a whole marketing department, complete with all of its individuality, warmth, and inventiveness.

AI and Ethical Consideration

Ethical Concerns: Bias, Transparency, and Accountability

There are certain moral conundrums with using AI in marketing. The possibility that AI will reinforce prejudice is one of the main worries. Biased data used to train AI algorithms may result in discriminatory actions that perpetuate negative stereotypes. Additionally, customers find it challenging to comprehend how their data is being utilized because to the opaque nature of AI systems, which results in an unequal power dynamic between consumers and corporations. Since people might not be aware of how much their conduct is being watched and manipulated, this lack of transparency might result in a breach of consumer confidence. Furthermore, in the absence of adequate oversight, companies could put profit ahead of customer welfare, resulting in marketing tactics that take advantage of weaker demographics.

Evaluation of consumer expectations

The worldwide pandemic and the resulting pace of technology have further increased the need for immediacy among modern consumers. People now expect solutions and services that are both personally tailored and provided rapidly, thanks to the growing popularity of technologies like chatbots and artificial intelligence (AI). This puts more pressure on businesses to respond to client requests as quickly and effectively as possible.

Boost Communicability

One of the most crucial and crucial components in reaching client happiness is effective communication. Customers anticipate transparent and consistent communication, as well as prompt resolution of inquiries and issues, due to the proliferation of communication channels. AI ensures

that customer demands and requests are fulfilled as soon as possible by providing a range of automated customer care choices. AI can help human agents function as an efficient first line of communication by filtering typical requests. This further enhances communication and cuts down on waiting times by frequently being able to handle basic problems before a consumer is sent to a human agent.

Reduce Customer Service Response Times

While human agents require breaks, AI solutions can operate around the clock, allowing companies to service customers in different time zones and after hours. According to reports, phone waiting times have risen 182% annually, with some Australian customers reportedly having to wait up to five hours before speaking with a corporate representative. Customers are much more likely to switch to a different company in order to obtain the service or product they desire as a result of this. Using AI technologies, including conversational AI, can greatly speed up response times without adding more team members, enabling round-the-clock customer service for inquiries and requests.

Use Data to Personalize the Customer Experience

More individualized customer experiences are made possible by AI-led customer care, which is another important advantage. Businesses can more easily understand their clients and provide customized solutions and recommendations based on past browsing or purchasing activities because to artificial intelligence's capacity to store, scan, and analyze vast volumes of data.

Improve the Possibilities for Customers to Help Themselves

Additionally, AI can help users navigate self-help features, simplifying and facilitating self-service. People no longer need to rely on human-manned phone hotlines thanks to technologies like conversational AI. Alternatively, customers can initiate communication using a company's web chat, social media accounts, or messaging applications like WhatsApp and Facebook Messenger.

Conclusion

The ramifications for an e-commerce company include a greatly enlarged market reach that enables them to sell to customers worldwide, increased customer convenience due to 24/7 accessibility, the necessity of strict inventory control and logistics, the significance of a strong online presence and user experience, the dependence on data analytics to comprehend customer behavior,

and the ongoing need to adjust to changing digital trends in order to remain competitive—all while juggling issues like cyber security and online customer trust management.

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Problems and Awareness of Women Entrepreneurs towards Various Government Schemes with Reference to Thoothukudi

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Abstract

This study explores the problems faced by women entrepreneurs and their awareness of various government schemes, focusing on Thoothukudi District. Women entrepreneurs encounter challenges such as lack of financial access, bureaucratic hurdles, and inadequate training programs. The study also examines how government schemes influence their entrepreneurial journey. Data was collected from 350 respondents using structured questionnaires and analyzed through statistical tools such as percentage analysis, mean, and standard deviation. The findings indicate that while several government schemes exist to support women entrepreneurs, awareness and accessibility remain major challenges. The study provides insights into the effectiveness of existing policies and suggests ways to enhance awareness and utilization of government initiatives.

Keywords: Women Entrepreneurs, Government Schemes, Financial Support, Policy Awareness, Business Challenges

Introduction

Women entrepreneurship is a growing sector that plays a crucial role in economic development, job creation, and social empowerment. Women-led businesses contribute to diverse industries, including manufacturing, retail, services, and technology, yet they continue to face multiple challenges such as financial constraints, social and cultural barriers, limited market access, and lack of awareness about business regulations and support systems. Recognizing the importance of women's entrepreneurship, the Indian government has launched various initiatives, including Mudra Yojana, Stand-Up India, and the Women Entrepreneurship Platform (WEP), to provide financial assistance, skill development, and market linkages. However, despite these efforts, many women entrepreneurs remain unaware of these schemes or struggle with bureaucratic hurdles when attempting to access financial aid and resources. This study aims to assess the level of awareness among women entrepreneurs regarding government schemes, explore the key barriers hindering their business growth, and suggest strategies to enhance their participation in the entrepreneurial ecosystem. By addressing these challenges, policymakers, financial institutions, and stakeholders can develop targeted interventions to support women-led businesses and promote inclusive economic development.

Objectives

- To analyze the demographic profile of women entrepreneurs in Thoothukudi District.
- To assess the level of awareness of government schemes among women entrepreneurs.
- To identify the challenges faced in availing government support.
- To provide suggestions for improving the accessibility of government schemes.

Study Area Profile

Thoothukudi District, known for its thriving industrial and commercial activities, has seen a significant rise in women entrepreneurs engaged in micro, small, and medium enterprises (MSMEs). Many women in this region have ventured into sectors such as textile manufacturing, food processing, handicrafts, and retail businesses, contributing to the local economy. Despite the increasing entrepreneurial spirit, women face hurdles in securing financial support, accessing markets, and adopting digital business models. Government schemes like the Tamil Nadu State Rural Livelihood Mission (TNSRLM) and Micro Units Development and Refinance Agency (MUDRA) loans aim to empower women entrepreneurs, but awareness and utilization of these programs remain limited. Social norms and family responsibilities further restrict women's ability to scale their businesses. Limited networking opportunities and inadequate skill training also hinder their entrepreneurial growth. The role of self-help groups (SHGs) has been instrumental in providing financial support and business training to women in rural and semi-urban areas. However, challenges such as bureaucratic delays and lack of proper guidance impact the efficiency of these initiatives. This study seeks to analyze the business landscape for women entrepreneurs in Thoothukudi District and explore strategies for improving their participation in economic activities. By identifying key barriers and opportunities, the study aims to provide recommendations to strengthen women-led enterprises in the region.

Research Methodology

Source of Data

Primary data was collected through structured questionnaires distributed among 350 respondents. Secondary data was obtained from government reports, research articles, and official policy documents.

Data Collection

Both online and offline data collection methods were employed to ensure diverse representation.

Sample Size

The study surveyed 350 women entrepreneurs in Thoothukudi District.

Sampling Technique

A stratified random sampling technique was used to cover various industries and economic backgrounds.

Statistical Tools

The data was analyzed using percentage analysis, mean, and standard deviation to interpret awareness levels and challenges.

Tabel 1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age	Below 25	80	22.9%
	26-35	110	31.4%
	36-45	85	24.3%
	46-55	50	14.3%
	Above 55	25	7.1%
	Total	350	100%
Gender	Female	350	100%
Marital Status	Single	130	37.1%
	Married	220	62.9%
Living Area	Urban	190	54.3%
	Rural	160	45.7%
Family Income	Below ₹20,000	70	20.0%
	₹20,001-₹40,000	120	34.3%
	₹40,001-₹60,000	90	25.7%
	Above ₹60,000	70	20.0%

Tabel 2
Awareness and Challenges of Government Schemes

Awareness and Challenges Statements	Mean	S. D
Awareness of Mudra Yojana Scheme	3.5	0.8
Awareness of Stand-Up India Scheme	3.3	0.9
Knowledge of loan application processes	3.6	0.7
Awareness of Women Entrepreneurship Platform	3.2	0.9
Bureaucratic challenges in scheme accessibility	4.1	0.6
Difficulty in securing government loans	4.0	0.7
Perceived impact of government support	3.8	0.6
Training and mentorship under government programs	3.7	0.7
Complexity of documentation requirements	4.2	0.6
Effectiveness of financial incentives	3.9	0.7

Interpretation

The study highlights that awareness of government schemes such as Mudra Yojana (3.5) and Stand-Up India (3.3) remains relatively low among women entrepreneurs, indicating a need for better information dissemination. Knowledge of loan application processes (3.6) is moderate, but bureaucratic challenges (4.1) and complex documentation requirements (4.2) create significant barriers. Difficulty in securing government loans (4.0) further restricts financial accessibility, despite available schemes. The perceived impact of government support (3.8) and effectiveness of financial incentives (3.9) suggest that while these initiatives are beneficial, their reach and implementation need improvement. Training and mentorship programs (3.7) under government schemes require enhancement to increase their effectiveness and accessibility.

Tabel 3
Additional Evaluation on Scheme Utilization

Evaluation Factor	Mean	S. D
Increased business revenue due to schemes	4.0	0.6
Confidence in applying for government support	3.8	0.7
Ease of obtaining scheme benefits	3.5	0.8
Support received in the application process	3.7	0.7
Availability of awareness programs	3.6	0.8
Perceived effectiveness of policy measures	3.9	0.7
Influence of schemes on business expansion	3.8	0.6
Role of digital platforms in application processes	4.1	0.5
Clarity of eligibility criteria	3.5	0.8
Overall satisfaction with government support	3.7	0.7

Interpretation

The evaluation reveals that government schemes have a moderate impact on increasing business revenue (4.0) and business expansion (3.8), yet challenges persist in accessibility. Confidence in applying for government support (3.8) and perceived policy effectiveness (3.9) indicate a positive influence, though ease of obtaining benefits (3.5) and clarity of eligibility criteria (3.5) remain areas of concern. Support in the application process (3.7) and availability of awareness programs (3.6) suggest the need for more structured outreach efforts. Digital platforms (4.1) play a crucial role in simplifying applications, yet overall satisfaction with government support (3.7) indicates room for improvement in implementation and accessibility.

Conclusion

The study highlights the need for a more inclusive and accessible support system for women entrepreneurs in Thoothukudi District. While government schemes such as Mudra Yojana and Stand-Up India provide financial aid, their impact is limited due to bureaucratic hurdles and lack of

awareness. Simplifying the application process and reducing documentation requirements can encourage more women to utilize these schemes. Additionally, expanding training programs on financial literacy, digital marketing, and business management can enhance entrepreneurial success. Strengthening mentorship networks and facilitating access to professional guidance will further boost confidence among women entrepreneurs. Ensuring transparency in policy implementation and creating dedicated helplines for scheme-related queries can address existing concerns. Collaboration between government bodies, NGOs, and financial institutions can create a more conducive environment for women-led businesses. Future initiatives should focus on targeted awareness campaigns and personalized support systems. Digital platforms can be leveraged to bridge information gaps and streamline access to financial assistance. By addressing these challenges, the government can foster long-term economic empowerment and sustainable growth for women entrepreneurs.

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A Study on Problems of Women Entrepreneurs in Kovilpatti Taluk

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Abstract

This study examines the various challenges faced by women entrepreneurs in Kovilpatti Taluk. It explores financial constraints, lack of awareness about government schemes, market competition, and socio-cultural barriers. The research aims to understand the factors that hinder women's entrepreneurial success and suggest measures to enhance their business growth. The study was conducted among 275 respondents through structured questionnaires, and statistical tools such as percentage analysis, mean, and standard deviation were used for analysis. The findings indicate that access to credit, skill development programs, and policy support can significantly impact the entrepreneurial journey of women in the region.

Keywords: Women Entrepreneurs, Business Challenges, Financial Constraints, Government Support, Market Competition

Introduction

Women entrepreneurs play a pivotal role in economic growth by fostering innovation, generating employment, and enhancing local economies. However, their journey is often obstructed by financial constraints, limited access to markets, inadequate business training, and socio-cultural barriers. In **Kovilpatti Taluk**, many women struggle to secure financial resources due to a lack of collateral and awareness about government funding schemes. Additionally, **competition in the market, male dominance in business sectors, and restricted mobility** further hinder their entrepreneurial success. While **Self-Help Groups (SHGs), microfinance institutions, and digital platforms** have provided some relief, **low financial literacy and inadequate technological skills** remain significant obstacles. Many women entrepreneurs are still confined to **small-scale businesses such as tailoring, handicrafts, and home-based food production**, limiting their income potential. **Marketing networks and e-commerce adoption** are also underutilized due to a lack of digital literacy and access to resources. Moreover, **balancing family responsibilities with business operations** creates additional stress and affects productivity. Addressing these issues requires **policy support, customized skill development programs, financial awareness initiatives, and stronger networking opportunities**. Encouraging the **use of digital payment systems and promoting**

participation in online marketplaces can further enhance business sustainability. This study aims to explore the key **challenges and opportunities** for women entrepreneurs in **Kovilpatti Taluk**, with a focus on **financial access, training needs, market expansion, and socio-cultural influences**. By identifying effective strategies and interventions, this research seeks to contribute to a **more inclusive and supportive entrepreneurial ecosystem** for women in the region.

Objectives

- To examine the demographic profile of women entrepreneurs in Kovilpatti Taluk.
- To identify the key challenges faced by women entrepreneurs.
- To assess the level of awareness about government support schemes.
- To propose recommendations for improving the business ecosystem for women.

Study Area Profile

Kovilpatti Taluk is known for its **thriving small-scale industries and entrepreneurial spirit**, with women playing a significant role in economic activities. Women entrepreneurs in this region engage in various businesses such as **textile production, food processing, handicrafts, agriculture-based enterprises, beauty services, and retail trade**. These ventures not only contribute to household incomes but also **enhance the local economy** by generating employment and fostering self-reliance. However, despite their potential, many women face **financial constraints, limited access to markets, inadequate business training, and socio-cultural restrictions** that hinder their growth. **Lack of collateral and complex loan procedures** make it difficult for women to secure funding, forcing them to rely on informal credit sources with high interest rates. Moreover, **traditional gender roles and family responsibilities** often limit their mobility and time available for business activities. **Limited digital literacy and inadequate awareness of government schemes** further restrict their ability to expand operations or compete in emerging markets. Additionally, many women entrepreneurs struggle with **poor networking opportunities and weak supply chain linkages**, making it difficult for them to scale their businesses. This study aims to **analyze the challenges faced by women entrepreneurs in Kovilpatti Taluk** and propose **strategic solutions such as financial literacy programs, digital training, access to credit facilities, and policy support** to empower them and enhance their contribution to economic development.

Research Methodology

Source of Data

Primary data was collected through surveys and interviews with 275 women entrepreneurs. Secondary data was gathered from government reports, industry publications, and academic research papers.

Data Collection

Both online and offline surveys were conducted to gather comprehensive data from respondents across various business sectors.

Sample Size

The study analyzed data from 275 respondents to gain a broader understanding of the problems faced by women entrepreneurs.

Sampling Technique

A stratified random sampling method was employed to ensure diversity in respondents based on industry type, income level, and business experience.

Statistical Tools

Percentage analysis, mean, and standard deviation were used to interpret the data and derive meaningful insights.

Tabel 1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age	Below 25	50	18.2%
	26-35	90	32.7%
	36-45	70	25.5%
	46-55	40	14.5%
	Above 55	25	9.1%
	Total	275	100%

Demographic Factors	Category	Frequency	Percentage
Gender	Female	275	100%
Marital Status	Single	80	29.1%
	Married	195	70.9%
	Total	275	100%
Living Area	Urban	160	58.2%
	Rural	115	41.8%
	Total	275	100%
Family Income	Below ₹20,000	60	21.8%
	₹20,001-₹40,000	100	36.4%
	₹40,001-₹60,000	75	27.3%
	Above ₹60,000	40	14.5%
	Total	275	100%

Tabel 2

Major Challenges Faced by Women Entrepreneurs

Challenge Statement	Mean	S. D
Difficulty in obtaining financial support	4.6	0.5
Lack of awareness about government schemes	4.3	0.6
Limited access to business training programs	4.2	0.7
Challenges in market expansion	4.1	0.7
Social and family constraints	4.0	0.8
Competition with established businesses	4.3	0.6
Difficulty in accessing skilled labor	3.9	0.7

Challenge Statement	Mean	S. D
Issues with digital marketing and technology	4.0	0.6
Lack of mentorship and networking opportunities	3.8	0.7
Limited role in business decision-making	3.7	0.8

Interpretation

The study highlights that **financial support** (Mean = 4.6, S.D = 0.5) remains the biggest challenge for women entrepreneurs in Kovilpatti Taluk, emphasizing the need for **accessible credit and financial literacy programs**. **Limited awareness of government schemes** (Mean = 4.3, S.D = 0.6) and **lack of business training** (Mean = 4.2, S.D = 0.7) hinder their growth. **Market expansion difficulties** (Mean = 4.1, S.D = 0.7) and **competition with established businesses** (Mean = 4.3, S.D = 0.6) further restrict their success. **Social constraints** (Mean = 4.0, S.D = 0.8) and **limited access to digital marketing** (Mean = 4.0, S.D = 0.6) prevent scaling opportunities. **Lack of mentorship** (Mean = 3.8, S.D = 0.7) and **low decision-making power** (Mean = 3.7, S.D = 0.8) highlight the need for empowerment initiatives. Addressing these challenges through **training, mentorship, and financial support** can create a stronger ecosystem for women entrepreneurs.

Tabel 3
Additional Analysis of Entrepreneurial Awareness

Awareness Factor	Mean	S. D
Knowledge about business loans	4.5	0.5
Awareness of marketing strategies	4.3	0.6
Understanding of financial management	4.1	0.7
Awareness about tax benefits for women entrepreneurs	3.8	0.7
Familiarity with digital platforms for business	4.0	0.6
Participation in entrepreneurship development programs	3.9	0.7

Awareness Factor	Mean	S. D
Awareness of government grants and subsidies	3.7	0.8
Networking opportunities with other entrepreneurs	4.2	0.6
Understanding of export opportunities	3.6	0.8
Training support from local agencies	3.9	0.7

Interpretation

The study reveals that **knowledge about business loans** (Mean = 4.5, S.D = 0.5) is relatively high among women entrepreneurs in Kovilpatti Taluk, indicating financial awareness but also a potential need for easier loan accessibility. **Awareness of marketing strategies** (Mean = 4.3, S.D = 0.6) and **networking opportunities** (Mean = 4.2, S.D = 0.6) suggest that women recognize the importance of business expansion but may require further training to implement these strategies effectively. However, **understanding of financial management** (Mean = 4.1, S.D = 0.7) and **familiarity with digital platforms** (Mean = 4.0, S.D = 0.6) indicate a moderate level of awareness, emphasizing the need for capacity-building initiatives. Lower awareness levels in **tax benefits** (Mean = 3.8, S.D = 0.7), **government grants and subsidies** (Mean = 3.7, S.D = 0.8), and **export opportunities** (Mean = 3.6, S.D = 0.8) highlight the necessity for targeted awareness programs. Strengthening **entrepreneurship development programs** (Mean = 3.9, S.D = 0.7) and **training support from local agencies** (Mean = 3.9, S.D = 0.7) can further empower women entrepreneurs by enhancing their knowledge and skills, ultimately fostering a more sustainable business ecosystem.

Conclusion

The study reveals that women entrepreneurs in Kovilpatti Taluk face multiple challenges that hinder their business growth, including **limited access to finance, lack of awareness about government schemes, and intense market competition**. Despite these barriers, many women have demonstrated resilience in pursuing their entrepreneurial aspirations. The findings emphasize the importance of **proper training, mentorship programs, and policy support** to enhance their capabilities and business sustainability. **Improving financial literacy, expanding access to digital tools, and fostering strong networking opportunities** can further empower women entrepreneurs. Additionally, **encouraging participation in entrepreneurship development programs and**

leveraging government grants can help bridge knowledge and resource gaps. The study suggests that targeted interventions by government bodies, financial institutions, and non-governmental organizations can create a **supportive ecosystem for women entrepreneurs**, leading to **increased economic participation and regional development**.

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A Study on Consumer Awareness towards Online Shopping in Kovilpatti Taluk

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Abstract

This research investigates consumer awareness and preferences regarding online shopping in Kovilpatti Taluk. The study aims to understand the factors influencing online purchase decisions, including digital literacy, trust in e-commerce platforms, and consumer satisfaction. A survey was conducted with 425 respondents, and data was analyzed using statistical tools such as percentage analysis, mean, and standard deviation. The findings highlight that while convenience and product variety drive online shopping, concerns such as data security and product authenticity persist. The study provides insights into consumer behavior trends and suggests strategies to enhance trust and engagement in the e-commerce sector.

Keywords: Online Shopping, Consumer Awareness, E-commerce Trust, Digital Literacy, Shopping Preferences

Introduction

Online shopping has become a dominant retail channel, offering consumers convenience and a wide range of products. The adoption of e-commerce platforms is influenced by factors such as technological awareness, online payment security, and consumer trust. Additionally, ease of access, attractive discounts, personalized recommendations, and doorstep delivery further encourage online shopping behavior. However, concerns regarding product authenticity, delayed deliveries, cyber fraud, and return policies act as barriers to adoption. Consumer preferences also vary based on demographics, digital literacy, and past shopping experiences. This study explores the level of consumer awareness towards online shopping in Kovilpatti Taluk and examines the key motivators and barriers that shape purchasing decisions. The findings will help businesses enhance customer experience, improve trust-building strategies, and develop effective marketing approaches to expand e-commerce penetration in the region.

Objectives

- To assess the demographic profile of online shoppers in Kovilpatti Taluk.
- To examine consumer awareness regarding online shopping platforms.
- To identify the factors affecting consumer trust and satisfaction.

- To analyze the challenges faced by consumers in online shopping.

Study Area Profile

Kovilpatti Taluk, located in **Thoothukudi District, Tamil Nadu**, is experiencing rapid digital transformation, leading to increased adoption of e-commerce platforms. The widespread availability of **affordable smartphones, internet connectivity, and digital payment solutions** has encouraged online shopping among consumers. Younger demographics and working professionals prefer online shopping for its **convenience, variety, and discounts**, while older generations and rural consumers still rely on traditional retail due to **trust issues, lack of digital literacy, and concerns about product quality**. The region's **small businesses and local retailers** are gradually shifting towards digital platforms to expand their reach. However, **delivery delays, limited product availability, and cybersecurity concerns** remain key challenges. Consumers also face **issues with return policies, hidden charges, and inconsistent customer support** from e-commerce platforms. Despite these challenges, increasing fintech adoption and digital marketing trends are reshaping consumer behavior. This study examines the perception, motivators, and barriers of online shopping in Kovilpatti Taluk, providing insights for businesses and policymakers.

Research Methodology

Source of Data

Primary data was gathered using structured questionnaires from 425 respondents, while secondary data was collected from industry reports, government publications, and research articles on e-commerce trends.

Data Collection

The survey was conducted through online and offline methods to include a diverse group of respondents.

Sample Size

A total of 425 respondents participated in the study.

Sampling Technique

A random sampling technique was employed to ensure a balanced representation across age groups, income levels, and shopping preferences.

Statistical Tools

The collected data was analyzed using percentage analysis, mean, and standard deviation to determine consumer awareness levels and perceptions.

Tabel 1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age	Below 25	120	28.2%
	26-35	140	32.9%
	36-45	80	18.8%
	46-55	50	11.8%
	Above 55	35	8.2%
	Total	425	100%
Gender	Male	220	51.8%
	Female	205	48.2%
Marital Status	Single	190	44.7%
	Married	235	55.3%
Living Area	Urban	250	58.8%
	Rural	175	41.2%
Family Income	Below ₹20,000	80	18.8%
	₹20,001-₹40,000	160	37.6%
	₹40,001-₹60,000	120	28.2%
	Above ₹60,000	65	15.3%

Tabel 2**Consumer Awareness and Satisfaction in Online Shopping**

Factors Influencing Online Shopping	Mean	S. D
Ease of access to e-commerce platforms	4.6	0.5
Trust in payment security	4.2	0.7
Variety of product choices	4.5	0.6
Discounts and promotional offers	4.3	0.5
Delivery speed and efficiency	4.1	0.8
Product return and refund policies	3.9	0.7
Customer service experience	3.8	0.6
Awareness of data privacy concerns	4.0	0.7
Influence of online reviews and ratings	4.4	0.5
Overall satisfaction with online shopping	4.2	0.6

Interpretation

The study reveals that **ease of access to e-commerce platforms (Mean = 4.6, S.D = 0.5)** is the most significant factor influencing online shopping adoption in Kovilpatti Taluk, highlighting the importance of user-friendly interfaces and mobile applications. Consumers also value **variety of product choices (Mean = 4.5, S.D = 0.6)** and **discounts and promotional offers (Mean = 4.3, S.D = 0.5)** as key motivators. **Trust in payment security (Mean = 4.2, S.D = 0.7)** and **influence of online reviews and ratings (Mean = 4.4, S.D = 0.5)** play crucial roles in purchasing decisions. However, concerns regarding **product return and refund policies (Mean = 3.9, S.D = 0.7)** and **customer service experience (Mean = 3.8, S.D = 0.6)** indicate areas where improvement is needed. **Awareness of data privacy concerns (Mean = 4.0, S.D = 0.7)** suggests that consumers are increasingly conscious of online security risks. Overall, **satisfaction with online shopping (Mean = 4.2, S.D = 0.6)** remains high, but addressing logistical and service-related challenges could enhance consumer trust and engagement further.

Tabel 3

Likert Scale Assessment of Consumer Shopping Preferences

Shopping Preferences	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Mean	S. D
I find online shopping more convenient than offline shopping	220	120	50	20	15	4.2	0.6
I am aware of the security measures taken by e-commerce sites	190	140	60	20	15	4.1	0.7
Online reviews influence my buying decisions	210	130	50	20	15	4.2	0.6
I prefer Cash-on-Delivery over online payments	160	110	80	50	25	3.8	0.8
I am comfortable using mobile apps for shopping	200	130	60	20	15	4.2	0.6

Interpretation

The study highlights that most respondents find **online shopping more convenient than offline shopping** (Mean = 4.2, S.D = 0.6), emphasizing the ease and accessibility of e-commerce platforms. Consumers are also relatively aware of **security measures taken by e-commerce sites** (Mean = 4.1, S.D = 0.7), reflecting growing digital literacy. **Online reviews significantly influence buying decisions** (Mean = 4.2, S.D = 0.6), indicating the importance of customer feedback in shaping purchasing behavior. However, **a preference for Cash-on-Delivery** (Mean = 3.8, S.D = 0.8) suggests lingering trust issues with online payment methods. Meanwhile, **comfort in using mobile shopping apps** (Mean = 4.2, S.D = 0.6) shows that mobile commerce is well-accepted. While overall satisfaction with online shopping remains high, businesses must address concerns regarding security, payment preferences, and trust-building measures to enhance the e-commerce experience further.

Conclusion

The study indicates that consumer awareness towards online shopping in Kovilpatti Taluk is growing, driven by factors such as ease of access, product variety, and discounts. However, challenges remain in terms of **payment security, trust in online transactions, product return**

policies, and customer service. While mobile shopping apps and digital payment methods are gaining acceptance, a significant portion of consumers still prefer **Cash-on-Delivery**, reflecting ongoing concerns about fraud and transaction failures. **Online reviews and ratings strongly influence buying decisions**, highlighting the need for e-commerce platforms to build trust through transparent customer feedback mechanisms. Additionally, businesses must focus on **enhancing security measures, improving logistics for faster deliveries, and providing efficient customer support** to strengthen consumer confidence. By addressing these concerns and adapting to local consumer preferences, e-commerce platforms can **boost digital adoption, increase customer satisfaction, and expand their market reach** in Kovilpatti Taluk.

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A Study on Changing Attitude of Women Entrepreneurship - A Special Reference towards Role of Self Help Groups

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Abstract

This study explores the changing attitude of women towards entrepreneurship, with a special reference to the role of Self-Help Groups (SHGs). It analyses demographic factors, the impact of SHGs, entrepreneurial challenges, and the level of empowerment among women entrepreneurs. Data was collected from 250 respondents using structured questionnaires and analyzed through statistical tools such as percentage analysis, mean, and standard deviation. The findings reveal that financial support, skill training, and community networks play crucial roles in enhancing women's entrepreneurial success. Additionally, the study identifies major challenges and opportunities for women entrepreneurs in the region. The insights from this research provide a deeper understanding of how SHGs contribute to women's economic independence and business sustainability.

Keywords: Women Entrepreneurship, Self-Help Groups, Financial Support, Skill Development, Business Sustainability

Introduction

Women entrepreneurship has gained significant momentum in recent years, particularly in developing economies. Self-Help Groups (SHGs) have emerged as a pivotal force in empowering women by providing financial support, skill training, and collective bargaining power. The changing attitude towards entrepreneurship among women is influenced by various socio-economic factors, including access to microfinance, government schemes, and cultural acceptance. However, women still face challenges such as gender bias, lack of family support, and limited access to business networks. Technological advancements and digital literacy are also crucial in shaping modern women entrepreneurs' success. SHGs play a key role in fostering confidence, promoting self-reliance, and enhancing women's decision-making abilities in business. Moreover, SHGs act as a bridge between financial institutions and aspiring entrepreneurs, ensuring access to credit facilities and market linkages. This study aims to examine the factors influencing women entrepreneurs' attitudes and assess the role of SHGs in their success while identifying potential areas for policy improvement.

Objectives

- To analyse the demographic profile of women entrepreneurs in the study area.
- To examine the role of SHGs in promoting women entrepreneurship.
- To identify the challenges faced by women entrepreneurs.
- To evaluate the level of empowerment achieved through SHGs.

Study Area Profile

The study focuses on women entrepreneurs in the Thoothukudi District, where SHGs have been actively supporting small business ventures. The district has witnessed increasing participation of women in micro-enterprises, leading to economic development and financial independence. SHGs provide essential resources such as financial aid, skill development programs, and business training, enabling women to establish and sustain their enterprises. Additionally, these groups foster a sense of community, helping women overcome socio-cultural barriers and gain confidence in decision-making. Access to microfinance through SHGs has allowed many women to expand their businesses and improve their living standards. Furthermore, SHGs facilitate market linkages, enhancing the visibility and reach of women-led enterprises. Despite these positive impacts, challenges such as inadequate infrastructure, bureaucratic delays, and competition persist, hindering their full potential. This study aims to understand how SHGs have contributed to this transformation and identify areas where further support and policy interventions are needed.

Research Methodology

Source of Data

Primary data was collected through structured questionnaires distributed among 250 respondents. Secondary data was obtained from government reports, previous research studies, and relevant literature on women entrepreneurship.

Data Collection

Both online and offline data collection methods were used to ensure broad representation across different socio-economic backgrounds.

Sample Size

The study surveyed 250 women entrepreneurs associated with SHGs.

Sampling Technique

A stratified random sampling technique was used to ensure representation from various business sectors, income groups, and experience levels.

Statistical Tools

The data was analysed using percentage analysis, mean, and standard deviation to interpret women entrepreneurs' attitudes and satisfaction levels accurately.

Tabel 1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age	Below 25	60	24.0%
	26-35	80	32.0%
	36-45	55	22.0%
	46-55	35	14.0%
	Above 55	20	8.0%
	Total	250	100%
Gender	Female	250	100%
Marital Status	Single	90	36.0%
	Married	160	64.0%
Living Area	Urban	140	56.0%
	Rural	110	44.0%
Family Income	Below ₹20,000	50	20.0%
	₹20,001-₹40,000	90	36.0%
	₹40,001-₹60,000	70	28.0%
	Above ₹60,000	40	16.0%

Tabel 2**Impact of SHGs on Women Entrepreneurship**

Impact Factor Statement	Mean	S. D
Access to financial support	4.7	0.4
Business skill training	4.5	0.5
Social and community networking	4.4	0.6
Market expansion opportunities	4.3	0.5
Empowerment and decision-making ability	4.2	0.6
Risk management and financial literacy	4.1	0.7
Challenges in obtaining loans	3.9	0.8
Influence of family support	4.0	0.7
Sustainability of business ventures	4.2	0.5
Policy support and government schemes	3.8	0.6

Interpretation

The impact factor analysis reveals that **access to financial support (4.7)** and **business skill training (4.5)** are the most crucial factors driving women's entrepreneurship in Thoothukudi District. Social and community networking (4.4) and market expansion opportunities (4.3) also play significant roles in fostering business growth. While empowerment in decision-making (4.2) and financial literacy (4.1) contribute to sustainability, challenges in obtaining loans (3.9) and limited policy support (3.8) remain barriers. Family support (4.0) influences entrepreneurial success, highlighting the need for societal encouragement. Overall, enhancing financial accessibility, government interventions, and training programs can further strengthen women's business ventures.

Tabel 3

Additional Assessment of SHGs Influence

Assessment Factor	Mean	S. D
Improvement in business revenue	4.6	0.5
Increase in confidence level	4.5	0.4
Better access to market linkages	4.3	0.6
Reduced dependence on informal credit sources	4.4	0.5
Support from SHG members in crises	4.5	0.4
Awareness of government policies	3.9	0.7
Influence of digital literacy on business	4.1	0.6
Ease of starting a new business	4.2	0.5
Impact on work-life balance	3.8	0.7
Entrepreneurial motivation through SHGs	4.3	0.5

Interpretation

The assessment factor analysis highlights that **improvement in business revenue (4.6)** and **increase in confidence level (4.5)** are key benefits experienced by women entrepreneurs through SHG support. **Better access to market linkages (4.3)** and **reduced dependence on informal credit sources (4.4)** indicate the positive role of SHGs in providing financial stability. Additionally, **support from SHG members in crises (4.5)** strengthens resilience among entrepreneurs. However, **awareness of government policies (3.9)** and **impact on work-life balance (3.8)** remain areas for improvement. **Digital literacy (4.1)** and **ease of starting a new business (4.2)** show moderate influence, while **entrepreneurial motivation through SHGs (4.3)** suggests a strong role in fostering business initiatives. Overall, SHGs have significantly contributed to financial empowerment, confidence building, and business sustainability, but further efforts are needed to improve policy awareness and work-life balance.

Conclusion

This study highlights that SHGs play a crucial role in enhancing women's participation in entrepreneurship by providing **financial support, skill training, and networking opportunities**. These factors have significantly influenced the shift in women's attitudes toward self-employment,

leading to economic independence. However, **challenges such as limited loan accessibility, bureaucratic hurdles, and policy constraints** continue to hinder their growth. **Socio-cultural barriers, lack of digital literacy, and inadequate market linkages** further restrict their business expansion. The study suggests that **stronger government interventions, enhanced training programs, and better awareness of financial schemes** can further empower women entrepreneurs. Additionally, promoting **digital marketing, e-commerce platforms, and mentorship programs** can bridge existing gaps and provide long-term sustainability. Strengthening SHG initiatives, improving financial accessibility, and fostering a **supportive entrepreneurial ecosystem** will ensure **sustainable business growth and long-term success** for women in entrepreneurship.

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Role of Commercial Banks in Financial Inclusion for Rural Development at Tirunelveli District

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Abstract

This study investigates the significant role of commercial banks in enhancing financial inclusion for rural development in Tirunelveli District. It examines the accessibility of banking services, financial literacy, credit availability, and the overall economic impact on rural households. With a survey of 400 respondents, the study employs statistical tools like percentage analysis, mean, and standard deviation to analyze the data. The findings highlight that commercial banks have played a pivotal role in providing financial services to marginalized sections, promoting economic self-sufficiency. However, challenges like inadequate banking penetration and lack of awareness about financial schemes persist. The study suggests measures to strengthen financial literacy and ease access to banking services for sustainable rural development.

Keywords: Financial Inclusion, Commercial Banks, Rural Development, Banking Accessibility, Financial Literacy

Introduction

Financial inclusion has become a cornerstone of economic development, particularly in rural areas where access to banking services remains limited. The role of commercial banks in facilitating inclusive growth is crucial as they provide financial products such as savings accounts, credit, insurance, and investment services to the unbanked population.

Tirunelveli District, characterized by its agrarian economy, faces various financial barriers that hinder rural development. Limited banking infrastructure, lack of awareness, and digital illiteracy have made financial transactions challenging for the rural population. Through initiatives such as Jan Dhan Yojana, direct benefit transfers, and microfinance lending, commercial banks are working towards bridging this financial gap. This study aims to assess the impact of commercial banks on financial inclusion, the level of awareness about banking services, and the challenges faced by rural households in accessing formal financial institutions.

Objectives

- To analyze the demographic profile of respondents and their banking habits.
- To examine the role of commercial banks in promoting financial inclusion in rural areas.
- To identify challenges faced by rural communities in accessing banking services.
- To evaluate the effectiveness of financial awareness programs and banking schemes.

Study Area Profile

Tirunelveli District, one of Tamil Nadu's oldest and most agriculturally rich districts, is home to a large rural population dependent on farming and small-scale businesses. While commercial banks have expanded their outreach, a significant portion of the rural population still relies on informal financial sources due to limited access to formal banking services.

The district has several scheduled commercial banks operating in both urban and rural areas, offering various financial schemes for rural development. Government initiatives and bank-led financial literacy programs have made progress in increasing banking awareness, yet financial exclusion remains a concern. This study aims to understand how commercial banks contribute to economic growth and rural financial stability in Tirunelveli District.

Research Methodology

Source of Data

Primary data was collected through structured questionnaires administered to 400 respondents across different rural regions of Tirunelveli District. Secondary data was obtained from government reports, banking sector publications, and previous research papers.

Data Collection

A combination of online and offline surveys was conducted to ensure comprehensive data collection, focusing on banking accessibility, financial literacy, and awareness of financial schemes.

Sample Size

The study involved 400 respondents from various rural areas of Tirunelveli District.

Sampling Technique

A stratified random sampling technique was used to include respondents from different socio-economic backgrounds, banking preferences, and financial knowledge levels.

Statistical Tools

The collected data was analyzed using percentage analysis, mean, standard deviation, and a five-point Likert scale to assess respondents' perceptions of banking services.

Tabel 1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age	Below 25	80	20.0%
	26-35	120	30.0%
	36-45	100	25.0%
	46-55	60	15.0%
	Above 55	40	10.0%
	Total	400	100%
Gender	Male	220	55.0%
	Female	180	45.0%
Marital Status	Single	140	35.0%
	Married	260	65.0%
Living Area	Urban	170	42.5%
	Rural	230	57.5%
Income Level	Below ₹20,000	120	30.0%
	₹20,001-₹40,000	140	35.0%
	₹40,001-₹60,000	90	22.5%
	Above ₹60,000	50	12.5%

Tabel 2**Perception of Financial Inclusion – Likert Scale Analysis**

Financial Inclusion Factors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	S. D
Ease of opening a bank account	150	120	70	40	20	4.5	0.6
Accessibility of banking services	130	140	80	30	20	4.3	0.5
Awareness of government financial schemes	100	130	100	40	30	4.0	0.7
Availability of credit facilities	90	120	120	50	20	3.8	0.6
Digital banking adoption	110	130	90	50	20	3.9	0.7

Conclusion

The study highlights that commercial bank have significantly contributed to financial inclusion in Tirunelveli District. Despite progress in increasing banking accessibility and promoting financial literacy, challenges such as limited rural banking infrastructure, digital illiteracy, and low awareness about financial schemes persist. Strengthening financial awareness programs, enhancing digital banking accessibility, and improving rural banking outreach are crucial for sustainable rural development. Policymakers and banking institutions must collaborate to ensure that financial inclusion initiatives reach the most vulnerable sections, ultimately fostering economic stability in rural areas.

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A Comprehensive Study on Problems Faced by Rural Women Entrepreneurs in Kovilpatti Taluk

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Abstract

Rural women entrepreneurs play a crucial role in the economic development of their communities. However, they face numerous challenges that hinder their business growth and sustainability. This research aims to identify the key problems encountered by rural women entrepreneurs in Kovilpatti Taluk, with a particular focus on financial constraints, lack of market access, socio-cultural barriers, and inadequate governmental support. The study is based on primary data collected from 225 respondents and analyzed using statistical tools such as mean and correlation analysis. The findings highlight that financial difficulties, lack of business knowledge, and societal restrictions significantly impact the entrepreneurial success of rural women. Recommendations are provided to improve financial accessibility, training programs, and policy interventions to empower rural women entrepreneurs.

Keywords: Rural Entrepreneurship, Women Entrepreneurs, Financial Challenges, Market Accessibility, Policy Support

Introduction

Entrepreneurship among rural women has emerged as a powerful tool for economic empowerment and social transformation. Despite their potential, rural women entrepreneurs encounter various obstacles that restrict their business growth. Financial limitations, lack of access to modern technology, inadequate training, and socio-cultural restrictions often prevent them from reaching their full potential. The absence of strong marketing networks and financial literacy further exacerbates their struggles. Limited availability of raw materials and high transportation costs add to their financial burden, making it difficult to sustain and expand their businesses. Additionally, societal norms and family responsibilities often hinder their ability to dedicate time and resources to entrepreneurial activities. The lack of mentorship programs and exposure to emerging business trends further limits their opportunities for innovation and growth. Government schemes and self-help groups provide some support, but their reach remains insufficient due to bureaucratic hurdles and awareness gaps. This study aims to explore the challenges faced by rural women entrepreneurs in Kovilpatti Taluk and propose solutions to support their business endeavours.

Objectives

- To analyze the financial challenges faced by rural women entrepreneurs.
- To evaluate the impact of socio-cultural barriers on entrepreneurial activities.
- To assess the role of government schemes in supporting rural women entrepreneurs.
- To examine the level of access to markets and modern business tools.
- To suggest measures for enhancing the sustainability of rural women-led businesses.

Research Methodology

Source of Data

Primary data was collected through structured questionnaires from 225 rural women entrepreneurs in Kovilpatti Taluk. Secondary data sources included government reports, academic publications, and previous research studies.

Data Collection

Both online and offline surveys were conducted, along with interviews of key stakeholders, including women entrepreneurs and local business support institutions.

Sample Size

A total of 225 rural women entrepreneurs participated in the study.

Sampling Technique

A convenience sampling technique was used to collect data from respondents actively involved in entrepreneurial activities.

Statistical Tools

The collected data was analyzed using percentage analysis, mean, correlation analysis, and regression analysis.

Tabel 1
Challenges Faced by Rural Women Entrepreneurs

Factors	Very High	High	Normal	Low	Very Low	Mean
Lack of Financial Support	100	60	25	20	20	4.32
Limited Market Access	95	58	30	22	20	4.25

Factors	Very High	High	Normal	Low	Very Low	Mean
Socio-Cultural Barriers	90	55	35	20	25	4.18
Lack of Business Knowledge	92	50	30	28	25	4.15
Difficulty in Loan Acquisition	88	52	32	25	28	4.12
Competition from Larger Businesses	85	55	40	25	20	4.10
High Cost of Raw Materials	90	50	38	22	25	4.14
Insufficient Training Programs	87	55	30	30	23	4.16
Lack of Family Support	80	58	35	28	24	4.08
Poor Infrastructure	89	53	33	25	25	4.17

Interpretation

The study indicates that financial constraints (mean: 4.32) and limited market access (mean: 4.25) are the most significant challenges faced by rural women entrepreneurs. Socio-cultural barriers and inadequate business knowledge also play crucial roles in limiting entrepreneurial success. Addressing these issues through targeted training programs, financial assistance, and infrastructure improvements can help foster sustainable growth among rural women entrepreneurs.

Tabel 2
Government and Institutional Support

Factors	Very High	High	Normal	Low	Very Low	Mean
Awareness of Government Schemes	85	60	35	25	20	4.18
Ease of Access to Government Loans	90	55	30	28	22	4.15
Training Programs by NGOs	87	52	38	22	26	4.12
Support from Local Business Associations	88	50	35	25	27	4.10
Availability of Business Mentors	92	55	32	22	24	4.20
Infrastructure Support by Authorities	89	50	33	26	27	4.12

Factors	Very High	High	Normal	Low	Very Low	Mean
Access to Digital Tools and Technology	85	58	36	28	23	4.16
Policy Effectiveness in Supporting Women Entrepreneurs	90	52	35	25	23	4.18
Availability of Marketing Support	87	55	32	27	24	4.14
Collaboration with Financial Institutions	88	53	34	25	25	4.17

Interpretation

The findings suggest that awareness of government schemes (mean: 4.18) and business mentorship programs (mean: 4.20) play a significant role in supporting rural women entrepreneurs. However, improvements in infrastructure support and access to digital tools can further enhance their entrepreneurial journey.

Conclusion

The study on the problems faced by rural women entrepreneurs in Kovilpatti Taluk underscores the importance of financial accessibility, market exposure, and socio-cultural support in ensuring business success. The findings highlight that inadequate financial backing, limited business knowledge, and high competition pose major hurdles for these entrepreneurs. Government and institutional interventions can significantly enhance entrepreneurial prospects by providing financial aid, business training, and technological support.

By focusing on policy improvements, financial inclusivity, and skill development initiatives, rural women entrepreneurs can overcome barriers and contribute significantly to the local and national economy. A collaborative approach involving government agencies, financial institutions, and business associations is crucial in fostering an inclusive entrepreneurial ecosystem for rural women.

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A Comprehensive Study on Customer Service Excellence and Marketing Strategies in E-Banking: Insights from Private Sector Banks in Thoothukudi District

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Abstract

The dynamic expansion of technology has revolutionized the banking industry, leading to widespread adoption of e-banking services aimed at optimizing customer experience. This research investigates customer service quality and the effectiveness of marketing strategies employed by private sector banks in Thoothukudi District. The study's primary focus is to gauge customer satisfaction, identify key factors that impact service quality, and evaluate the role of marketing initiatives in promoting e-banking services. This research is based on primary data gathered from 200 respondents, analyzed using statistical techniques such as mean and correlation analysis. The findings highlight the significance of prompt customer support, secure transactions, and promotional campaigns in influencing customer engagement and satisfaction levels in e-banking. The study also explores challenges customers face and provides recommendations for enhancing digital banking experiences in private sector banks.

Keywords: *Customer Experience, Digital Banking, Service Efficiency, Promotional Campaigns, Private Sector Banking*

Introduction

The financial sector has embraced digital transformation, enabling banks to deliver seamless, customer-centric services. E-banking platforms, including internet banking, mobile banking, and ATMs, provide customers with convenience and efficiency. However, the success of digital banking services hinges on customer service quality and strategic marketing initiatives. Private sector banks must prioritize responsive service mechanisms, effective complaint resolution, and compelling promotional offers to enhance customer retention. Additionally, security concerns and customer awareness play a crucial role in the adoption of e-banking services. This study examines the interplay between service excellence and marketing strategies in fostering e-banking adoption in Thoothukudi District while identifying potential areas for improvement.

Objectives

- To assess the quality of customer service provided in private sector banks' e-banking services.
- To analyze the influence of marketing strategies on customer engagement and adoption.
- To measure customer satisfaction levels concerning various e-banking services.
- To identify challenges faced by customers in using e-banking services.
- To recommend solutions for improving e-banking service quality and customer engagement.

Research Methodology

Source of Data

Primary data was collected using structured questionnaires from 200 respondents utilizing e-banking services in Thoothukudi District. Secondary data sources included banking reports, industry publications, and prior research studies.

Data Collection

Both online and offline surveys were conducted to ensure diverse respondent participation. Interviews with banking professionals were also conducted to gain insights into the challenges faced by banks in service delivery.

Sample Size

A total of 200 customers using private sector banks' e-banking services contributed to this study.

Sampling Technique

A convenience sampling technique was employed to collect data from individuals actively using online banking services.

Statistical Tools

The collected data was analyzed using percentage analysis, mean, correlation analysis, and regression analysis to derive meaningful conclusions.

Tabel 1
Customer Service Quality in E-Banking

Factors	Very High	High	Normal	Low	Very Low	Mean
Responsiveness of customer support	90	60	20	15	15	4.25
Reliability of transaction process	95	55	25	10	15	4.30
Security measures and fraud prevention	88	50	30	15	17	4.20
Resolution of complaints and grievances	80	60	35	10	15	4.15
Ease of navigating banking apps/websites	85	65	25	15	10	4.28
Speed of fund transfers	92	55	28	12	13	4.26
Availability of customer support 24/7	86	52	30	18	14	4.18
Accuracy in transaction processing	91	58	24	12	15	4.29
Transparency in banking charges	87	54	29	14	12	4.22
User-friendly interface	89	59	27	13	12	4.27

Interpretation

The study reveals that customers highly appreciate the reliability of transaction processes (mean: 4.30) and ease of navigation (mean: 4.28). The speed of fund transfers and accuracy in transactions also contribute significantly to customer satisfaction. However, aspects such as complaint resolution (4.15) and 24/7 customer support (4.18) need further enhancement to improve overall service quality. Additionally, security measures and transparency in banking charges remain areas where customers demand higher improvements.

Tabel 2
Promotional Strategies and Their Impact

Promotional Strategies	Very High	High	Normal	Low	Very Low	Mean
Cashbacks and discounts on transactions	98	60	20	12	10	4.30
Referral programs and bonuses	80	55	35	15	15	4.10
Free transaction services	95	58	25	12	10	4.26
Personal assistance for new users	78	60	30	18	14	4.08

Promotional Strategies	Very High	High	Normal	Low	Very Low	Mean
Special interest rates on savings	85	55	28	18	14	4.12
Loyalty rewards for frequent transactions	90	50	35	10	15	4.20
Targeted offers for specific customer segments	88	52	33	12	15	4.18
Personalized financial planning services	80	58	30	15	14	4.12
Exclusive credit card benefits	92	55	25	15	13	4.24
Digital banking awareness campaigns	85	57	28	15	15	4.18

Interpretation

Cashbacks and discounts (mean: 4.30) remain the most attractive promotional strategy, followed by free transaction services (4.26) and exclusive credit card benefits (4.24). Loyalty rewards and targeted offers also play crucial roles in influencing customer engagement. However, personal assistance for new users (4.08) and referral programs (4.10) can be improved to maximize the effectiveness of promotional strategies. Banks should focus on strengthening awareness campaigns to enhance customer trust and participation in digital banking services.

Conclusion

The study on customer service excellence and marketing strategies in e-banking within private sector banks in Thoothukudi District highlights key aspects influencing customer satisfaction and engagement. The findings suggest that the reliability of transactions, ease of navigation, and speed of fund transfers significantly contribute to positive customer experiences. However, areas such as 24/7 customer support, security measures, and transparency in banking charges require further enhancements to build trust and improve service efficiency.

From a marketing perspective, promotional strategies such as cashbacks, free transaction services, and exclusive credit card benefits have proven effective in attracting and retaining customers. However, improvements in personal assistance for new users and referral programs can enhance customer acquisition and loyalty. By focusing on optimizing service delivery and refining promotional strategies, private sector banks can strengthen customer relationships, drive digital banking adoption, and maintain a competitive edge in the evolving financial landscape.

This research underscores the importance of integrating advanced digital tools, proactive customer support, and tailored marketing campaigns to meet evolving consumer expectations. Banks must continuously innovate to enhance digital experiences, address customer concerns, and ensure seamless banking services in the digital era.

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A Study on Job Satisfaction among Women Faculties of Self - Financing Arts and Science Colleges in Tenkasi

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Abstract

Job satisfaction is a complex phenomenon influenced by an employee's attitude towards work and various internal and external factors. From an organizational perspective, job satisfaction is crucial for attracting and retaining top talent, as it involves matching the right person with the right job at the right place and satisfying them. This study aims to investigate the job satisfaction of women faculty members in self-supporting arts and science colleges in tenkasi. Specifically, it explores the various factors that influence job satisfaction. Using a convenience sampling method, data were collected from 100 women faculty members working in various self-supporting arts and science colleges in tenkasi. The data were analyzed using statistical tools, including simple percentage analysis. The study provides actionable recommendations for institutions to improve the satisfaction levels of women faculty members.

Keywords: job satisfaction, women faculty, self-financing college.

Introduction

Job satisfaction is crucial because most people spend a significant portion of their lives working. Moreover, job satisfaction affects an employee's overall well-being, as a satisfied employee tends to be more content, cheerful, and physically and mentally healthy. Effective human resource management is essential for organizational success, as it enables institutions to identify and address employee needs. Job satisfaction refers to a positive emotional state resulting from an individual's appraisal of their work or work experience. The level of satisfaction is determined by the extent to which results meet or exceed expectations. Several factors influence job satisfaction, which can be broadly categorized into two types: demographic factors (age, gender, marital status, educational qualification, designation, department, and experience) and organizational factors.

Statement of the Problem

This study investigates job satisfaction among women faculty members in self-financing arts and science colleges in tenkasi. The research explores whether faculty members are satisfied with the

working conditions in the college and their ability to adapt to them. The study examines the extent to which faculty members' skills and abilities are utilized in their roles. Additionally, the research investigates the fairness of pay and incentive structures in the organization, as well as the impact of faculty approaches on social identity and cohesion within the college.

Objective of the Study

- To study the socio-economic status of women faculty in self-financing colleges in tenkasi district.
- To analyse the job satisfaction and physical facilities of women faculties in self-financing colleges.
- To find out how satisfied women faculties are with opportunities for personal development.

Reviews of the Study

Uzma bano, Anis ahmed: in this study entitled “emotional intelligence and job satisfaction among medical teaching faculty” it stated that regardless at his theory, There was a strong positive and statistically significant relationship between emotional intelligence job satisfaction. Furthermore, this positive and statistically significant correlation was observed between job satisfaction and all aspects of emotional intelligence. His self-emotional appraisal, emotion regulation, use of emotions and other emotional evaluations. Therefore it is important to pay attention to those habits it promotes emotional intelligence in therapy teachers may need this Progress of Medical College.

Naseer: performed a study “Job satisfaction of librarian and information science professionals University Libraries in Kerala” it observed the objective of the present study is to find out the job satisfaction of librarians informatics professionals working in eight state universities a structured questionnaire on job satisfaction was developed in Kerala, India, and is used to measure the job satisfaction of LIS professionals. The data was there two hundred sixty-six were collected from regular LIS professionals. A study shows that most professionals do not experience stress and have difficulty in completing their duties and responsibilities.

Scope of the Study

Job satisfaction refers to the degree which an individual has positive feelings or attitudes about their job. This study aims to investigate the job satisfaction of female teachers working in self-

financing arts and science colleges in tenkasi. The research provided an opportunity to directly interact with teachers from various self-financing colleges, exploring their working conditions, work relations salaries, promotional activities, skills abilities, and other factors influencing job satisfaction.

Analysis And Interpretations

Table – 1
Frequency Analysis

S. No	Age of the respondent	Number of respondents	Percentage
1	25-35	35	35
2	36-45	42	42
3	Above 45	23	23
	Total	100	100
	Marital status	Number of respondents	Percentage
1	Married	52	52
2	Un married	48	48
	Total	100	100
	Qualification	Number of respondents	Percentage
1	Post graduation	43	43
2	M.Phil	26	26
3	PhD	31	31
	Total	100	100
	Designation	Number of respondents	Percentage
1	Assistant professor	73	73
2	Associate professor	27	27
	Total	100	100
	Salary	Number of respondents	Percentage
1	8000-10000	36	36
2	11000-15000	28	28
3	16000-25000	21	21
4	Above 25000	25	25
	Total	100	100

Table 1 indicate the demography of the faculties in terms of gender, marital status, age, qualification and designation.

- From the above table indicate that 100 respondents, 35 faculties are 25-35 years, 42 faculties are 36-45 years, and 23 faculties are above 40 years.
- From the above table indicate the 100 faculties, 52 faculties are married and 48 faculties are unmarried.
- From the above table indicate the 100 faculties, 43 faculties were post graduate, 26 faculties were M. Phil holders and 31 faculties were PhD.
- From the above table indicate the 100 faculties, 36 faculties get monthly income 8000-10000, 28 faculties get monthly income 11000-15000, 21 faculty get monthly income 16000-25000 and 25 faculties get monthly income above 25000.

Table – 2
Physical Facilities of Women Workers

Particular	Highly satisfied	Satisfied	No opinion	Dis satisfied	Highly dissatisfied	Total
Water facilities	50	20	20	5	5	100
Hygiene maintained	25	35	20	7	13	100
Separate staff room	36	45	18	1	-	100
Canteen is provide good quality food	20	25	10	25	20	100
Sufficient toilet facilities	30	40	15	7	8	100
Enough Computer provided	40	25	20	5	10	100
Net facilities provided	30	20	30	8	12	100

Table – 3
Weighted Average Data

Particular	Hs	S	No opinion	Ds	Hds	Total	Weight	Rank
Water facilities	250	80	60	10	5	415	4.15	II
Hygiene maintained	125	140	60	14	13	352	3.52	V
Separate staff room	180	180	54	2	-	416	4.16	I

Canteen is providing good quality food	100	100	30	50	20	300	3.00	VII
Sufficient toilet facilities	150	160	45	14	8	377	3.77	IV
Enough Computer provided	200	100	60	10	10	380	3.80	III
Net facilities provided	150	80	90	16	12	348	3.48	VI

It is observed from the table the factors influencing the physical facilities of women faculties. Are ranked from 1-7. Separate staff room got first rank. Water facilities got second rank. Enough computers provided got third rank. Sufficient toilet facilities got fourth rank. Hygiene maintained got fifth rank. Net facilities provided got sixth rank. Canteen is providing good quality food got seventh rank.

Findings

- Majority 42 % of faculties are belongs to the age group of 36-45 years.
- Most of faculties were married 52 %.
- Majority of faculties were post graduated 43 %.
- 36 % faculties receive salary 8000-10000
- Separate staff room got first rank.
- Water facilities got second rank.
- Enough computers provided got third rank.

Suggestion

- The management should reassess the current salary structure and provide more competitive compensation to ensure faculty satisfaction.
- The management should establish a process to recognize and reward outstanding teaching staff across all disciplines for their exceptional performance.
- The management should consider converting temporary positions to permanent ones to provide employees with job security.
- The management should organize annual training sessions to keep teaching staff abreast of the latest teaching methodologies.

Conclusion

Job satisfaction is a crucial aspect of an individual job experience, reflection their emotional, cognitive and behavioural responses to their work environment. This study provided valuable insights into the attitudes, opinions, and satisfaction levels of women faculty members working in various self-financing colleges in tenkasi. The findings revealed that these faculty members were generally satisfied with their working conditions, working hours, relationships with students and colleagues, and the overall work environment. Additionally, they appreciated the autonomy and flexibility offered by their institutions, which enabled them to balance their professional and personal responsibilities effectively. The study also highlighted areas that require improvement, including salary structures, incentives, provident fund benefits, and opportunities for professional growth and development.

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A Study on AI's Impact on the Education Sector among College Professors in Virudhunagar District

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Abstract

This research investigates the impact of Artificial Intelligence (AI) on the education sector, with a specific focus on college professors in Virudhunagar District, Tamil Nadu. The study is based on responses from 350 participants representing a diverse range of colleges within the region. It aims to assess the extent of AI adoption and evaluate its effectiveness in enhancing teaching methodologies, optimizing administrative tasks, and improving overall academic operations. Utilizing statistical tools such as percentage analysis, mean, and standard deviation, the study analyzes demographic variables and the perceived impact of AI among educators. The findings indicate that AI is widely acknowledged for its potential to enhance teaching efficiency, personalize learning experiences, and streamline administrative responsibilities. However, challenges such as high implementation costs, integration issues, and the need for continuous training and technical support persist. The study underscores the necessity for ongoing professional development, robust institutional backing, and strategic investments to fully harness AI's potential in the educational landscape.

Keywords: Artificial Intelligence, Education Sector, College Professors, EdTech, Academic Operations.

Introduction

Artificial Intelligence (AI) is revolutionizing multiple sectors, with education emerging as one of its most significantly influenced domains. AI-powered tools are increasingly being adopted to enhance teaching effectiveness, automate routine administrative functions, and provide tailored learning experiences to students. In the context of Virudhunagar District, Tamil Nadu, college professors are gradually incorporating AI technologies into both academic and administrative workflows. This integration supports the development of more engaging, efficient, and adaptive teaching practices while easing the burden of non-teaching responsibilities. Additionally, AI's ability to process and analyze large datasets offers valuable insights that can inform curriculum planning, student assessment, and institutional decision-making. Despite these substantial advantages, the transition to AI-integrated education is accompanied by several challenges, including the cost of implementation, compatibility with existing infrastructure, and the need for sustained faculty training

and support. This study aims to examine the current level of AI adoption among college professors in Virudhunagar District, evaluate its impact on professional practices, and identify the key benefits and constraints associated with its use.

Objectives

- a) To examine the level of awareness and the extent of utilization of Artificial Intelligence (AI) tools among college professors in Virudhunagar District.
- b) To analyze the influence of AI on teaching methodologies and the execution of administrative responsibilities in higher education institutions.
- c) To evaluate college professors' overall perceptions regarding the advantages and challenges associated with the integration of AI in the education sector.

Study Area

Virudhunagar District, located in the southern part of Tamil Nadu, India, is known for its dynamic commercial activity and cultural vibrancy. Renowned as a major hub for matchbox manufacturing, fireworks production, and printing industries, the district plays a significant role in the state's industrial landscape. Virudhunagar is also rich in cultural heritage, with its traditional festivals, temples, and historical sites reflecting the region's deep-rooted customs and community life. The local economy is supported by both agriculture and small-scale industries, contributing to its socio-economic diversity. With a semi-arid climate and a landscape dotted with both rural charm and growing urban centers, Virudhunagar stands out as a region that balances tradition with progress, making it notable for both educational and economic developments.

Source of Data

The study uses primary data collected through structured questionnaires distributed to college professors in Virudhunagar District.

Data Collection

Questionnaires were distributed to 476 college professors, out of which 350 completed responses were received and analyzed.

Sample Size

The sample size for the study is 350 respondents.

Sampling Technique

Stratified random sampling was employed to ensure representation from various colleges in Virudhunagar District.

Statistical Tools

- Percentage Analysis
- Mean
- Standard Deviation
- Rank

Data Analysis and Interpretation

Table.1
Demographic Profile of Respondents

Demographic Factors	Category	Frequency	Percentage
Age Group	25–35 years	110	31.43%
	36–45 years	150	42.86%
	46–55 years	60	17.14%
	Above 55 years	30	8.57%
	Total	350	100%
Gender	Male	208	59.43%
	Female	142	40.57%
	Total	350	100%
Marital Status	Single	115	32.86%
	Married	235	67.14%
	Total	350	100%

Demographic Factors	Category	Frequency	Percentage
Residential Area	Urban	185	52.86%
	Rural	165	47.14%
	Total	350	100%
Monthly Family Income	Below ₹50,000	100	28.57%
	₹50,001 – ₹100,000	125	35.71%
	Above ₹100,000	125	35.71%
	Total	350	100%
Educational Qualification	Postgraduate	240	68.57%
	Doctorate	110	31.43%
	Total	350	100%
AI Tools Used	ChatGPT	295	84.29%
	Education Copilot	260	74.29%
	Automated Grading Systems	310	88.57%
	Total (Tool Users)	350	100%

Source: Primary Data

Impact Factors of AI on college professors

Table.2

Impact Factors	SDA	DA	N	A	SA	Mean	S.D.
AI enhances the effectiveness of teaching delivery	18	48	72	130	82	3.70	1.06
AI reduces the burden of administrative responsibilities	16	36	50	140	108	3.88	1.04
AI supports personalized and adaptive learning experiences	20	38	60	136	96	3.78	1.05
AI improves student participation and engagement	22	36	58	132	102	3.77	1.06
AI reduces routine workload for faculty	25	40	66	130	89	3.68	1.09

Impact Factors	SDA	DA	N	A	SA	Mean	S.D.
AI enables efficient academic planning and curriculum design	18	36	58	138	100	3.76	1.04
AI tools integrate well with existing institutional systems	20	46	70	130	84	3.63	1.08
AI provides actionable insights from educational data	16	34	62	140	98	3.78	1.03
AI improves research capabilities and scholarly output	20	38	58	132	102	3.77	1.07
AI is economically viable and budget-friendly	26	42	68	126	88	3.61	1.11
AI facilitates better management of institutional resources	18	32	60	140	100	3.80	1.02
AI improves accuracy and transparency in administrative work	20	34	62	136	98	3.77	1.05
AI reduces time spent on repetitive academic tasks	22	40	64	132	92	3.70	1.08
AI tools are easy to learn and use	20	48	70	130	82	3.63	1.07
AI supports continuous skill development and upskilling	22	36	60	134	98	3.74	1.06

Source: Primary Data

Interpretation

The analysis highlights a broadly favorable perception of Artificial Intelligence (AI) among college professors regarding its impact on the education sector. All assessed factors reported mean scores above 3.6, suggesting that respondents generally agree or strongly agree with the positive influence of AI on various academic aspects.

Notably, AI is most appreciated for its role in **reducing administrative workload** (mean: 3.88, SD: 1.04) and **supporting effective resource management** (mean: 3.80, SD: 1.02), underscoring its utility in institutional operations. Professors also recognize AI's contribution to **personalized and adaptive learning** (mean: 3.78, SD: 1.05) and its ability to provide **insightful academic data** (mean: 3.78, SD: 1.03), both of which enhance student outcomes and instructional planning.

Further, AI's impact on **student engagement** (mean: 3.77, SD: 1.06) and **academic research output** (mean: 3.77, SD: 1.07) is viewed positively, suggesting a shift toward technology-enabled pedagogy and knowledge creation. However, aspects such as **cost-effectiveness** (mean: 3.61, SD: 1.11) and **workload reduction for faculty** (mean: 3.68, SD: 1.09) received slightly lower ratings, indicating that economic feasibility and tangible workload relief remain areas of concern.

Despite some variability in responses related to integration ease and user-friendliness, the overall trend reflects strong optimism and acceptance toward AI's role in education. These findings affirm the transformative potential of AI in enhancing educational delivery, improving operational efficiency, and fostering professional development—provided institutions address existing challenges through training, infrastructure, and policy support.

Conclusion

The study comprehensively highlights the transformative impact of Artificial Intelligence (AI) on the education sector, specifically among college professors in Virudhunagar District. The findings reveal a strong sense of optimism toward AI's ability to enhance teaching effectiveness, streamline administrative tasks, and personalize the learning experience. A majority of the respondents acknowledged that AI tools have significantly improved their academic and operational workflows, with tools like ChatGPT and automated grading systems gaining widespread usage.

However, the integration of AI is not without challenges. Concerns surrounding implementation costs, user training, and compatibility with existing systems still pose barriers to full-scale adoption. Despite these issues, the positive perception reflected in the data emphasizes the readiness and willingness of educators to embrace AI-driven innovations, provided there is sufficient institutional support and infrastructure development.

To maximize the benefits of AI in education, it is imperative that stakeholders invest in continuous professional development, foster a culture of innovation, and implement strategic policies that make AI both accessible and sustainable. As the education landscape continues to evolve, AI stands as a powerful ally in shaping a more efficient, inclusive, and forward-looking academic environment.

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