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APPLICATION OF AI IN ACADEMIC RESEARCH



Dr.ANU ANTONY

APPLICATION OF AI IN ACADEMIC RESEARCH

**KRISTU JYOTI COLLEGE OF
MANAGEMENT AND TECHNOLOGY**

Changanacherry, Kerala - 686104

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The Application of Artificial Intelligence in Academic Research

Aparna Komalakuttan, Kristu Jyoti College of Management and Technology, Changanacherry

Artificial Intelligence (AI) is reshaping the landscape of academic research. From accelerating literature reviews to facilitating data analysis and personalized learning, AI tools are becoming essential components in the modern researcher's toolkit. This article explores how AI is being utilized in academia to streamline processes, foster innovation, and overcome traditional research limitations.

Introduction

AI in academia refers to the integration of technologies like machine learning (ML), natural language processing (NLP), deep learning, and data mining into the educational and research environments. These tools aim to automate tasks, interpret large datasets, and support decision-making—transforming teaching, research, and publishing.

Key Aspects of AI in Academia

1. Research Acceleration

AI tools such as AlphaFold assist in summarizing studies, analyzing trends, and accelerating discovery in fields like biology.

2. Smart Content Generation

Tools like ChatGPT and Gemini aid in drafting papers and generating hypotheses.

3. Personalized Learning

Platforms such as Coursera use AI to adapt to individual learning styles and needs.

4. Administrative Automation

AI applications like Turnitin and Gradescope automate grading and plagiarism detection.

Key Applications of AI in Research

1. Literature Review & Knowledge Discovery

Tools like Semantic Scholar, Elicit, and ResearchRabbit help summarize papers, map citations, and spot research gaps.

2. Data Collection & Processing

Web scraping tools (e.g., Scrapy) and data cleaning software (e.g., OpenRefine) streamline data acquisition and preparation.

3. Research Writing & Peer Review

AI aids in generating abstracts, improving language, and offering statistical quality checks via platforms like Grammarly and StatReviewer.

4. Advanced Data Analysis

NLP and ML techniques support qualitative analysis and trend prediction in social sciences and medicine.

5. Simulation & Modeling

AI simulates molecular dynamics in chemistry or market behavior in economics, enhancing experimentation.

Popular AI Tools in Academic Research

- Elicit – Excellent for literature reviews and extracting relevant claims.
- Semantic Scholar – Provides impact metrics and citation graphs.
- Hugging Face – Hosts open-source NLP models.
- ChatGPT – Aids in brainstorming, abstract writing, and improving clarity.
- IBM Watson – Analyzes qualitative data, useful in clinical and social research.
- AlphaFold – Predicts protein structures, aiding biological and pharmaceutical studies.

AI Growth Statistics

The global AI market is projected to surpass \$2.5 trillion by 2032, growing at a compound annual growth rate (CAGR) of over 19%. This reflects AI's increasing adoption in diverse sectors, including academia

Challenges and Disadvantages of AI in Education

1. Reduced Critical Thinking & Creativity

Over-reliance on AI for solving problems may stunt students' ability to think independently.

2. Privacy & Data Security Risks

Student data could be misused or exposed, raising concerns about confidentiality.

3. Loss of Human Interaction

Excessive use of AI tutors might reduce face-to-face engagement and emotional learning.

4. High Costs

Implementing and maintaining AI systems can be financially challenging for educational institutions.

Conclusion

AI is revolutionizing academic research by making processes more efficient, accessible, and innovative. From literature reviews to simulations, its integration across disciplines enhances research quality and reach. However, to fully benefit from AI, institutions must also address its limitations—particularly around ethics, costs, and the need for human-centered learning.

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Mohamed Khalifa

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AI for Research and Development” – Ankur A. Patel

How Generative AI Tools Help Transform Academic Research By Beata M. Jones.

Artificial Intelligence in Academic Research: Opportunities and Challenges

Jebin Varghese, Kristu Jyoti College of Management and Technology Changanacherry

Introduction

Artificial Intelligence (AI) is revolutionizing various sectors, and academic research is no exception. From literature reviews to data analysis and hypothesis testing, AI tools are playing a pivotal role in enhancing the efficiency, accuracy, and scope of research work. This report explores the impact, applications, benefits, and concerns surrounding the use of AI in academic research.

Objectives

- To understand the role of AI in academic research.
- To analyze the benefits and limitations of using AI tools in research.
- To examine ethical and practical concerns related to AI adoption.
- To identify future trends and possibilities in AI-driven academic research.

Methodology

This report is based on secondary research, including scholarly articles, journals, whitepapers, and credible online sources. A qualitative approach was used to assess and summarize findings from various publications.

Key Findings

Applications of AI in Research

Literature Review Automation: Tools like Semantic Scholar and Connected Papers simplify review processes.

Data Collection and Analysis: AI enhances speed and precision in data interpretation, especially in large datasets.

Plagiarism Detection and Language Editing: AI-powered tools assist in refining manuscripts.

Predictive Analytics and Simulation: Used in scientific studies to model hypotheses and scenarios.

Benefits

1. Increases productivity and efficiency.
2. Reduces human error in data handling.
3. Enables faster discoveries and innovation.
4. Enhances accessibility to global research data.

Challenges and Ethical Concerns

- Bias and Reliability: AI systems can perpetuate biases in datasets.
- Academic Integrity: Overdependence may risk originality and critical thinking.
- Data Privacy: Concerns about how AI tools manage sensitive research data.

- Skill Gap: Not all researchers are equipped to use AI effectively.

Conclusion

AI is undoubtedly transforming academic research, making it faster, smarter, and more efficient. However, careful implementation and ethical considerations are essential to maximize its benefits while maintaining the integrity and credibility of research.

Recommendations

Promote AI literacy among researchers and students.

Establish ethical guidelines for AI use in academia.

Encourage interdisciplinary collaboration to develop responsible AI tools.

Invest in training programs and AI research infrastructure.

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Revolutionizing Academia: Leveraging Artificial Intelligence for Enhanced Research Efficiency and Ethical Innovation

Jerin Sigi, Amith Abey Stephen, Sebin Karimpil Shaji, Mohit M Nair
Kristu Jyoti College of Management and Technology Changanacherry

Abstract

AI transforms academic research, from improving efficiency and productivity to providing new breakthroughs for healthcare, environmental sustainability, and STEM. This research collects, processes, synthesizes, predicts, and discovers data-driven insights through automation using five tools—Perplexity AI, ChatGPT, Gamma, Grammarly, and Notion AI. Showcasing interdisciplinary applications, the study finds the world-changing potential of the AI must be balanced with ethical considerations that include bias, transparency, and privacy. By systematically implemented, research shows that AI has the ability to shorten timelines, accuracy, and scale the range of research. The paper dares the academic institutions to adopt responsible use of artificial intelligence based on solid ethical principles, and well-structured training programs.

Keywords: AI Tools, ChatGPT, Perplexity AI, Sensor Fusion, Literature Synthesis, Predictive Analytics, Data Privacy, Machine Learning, Ethical AI, Intelligent Research

Introduction

Artificial Intelligence (AI)—human learning, reasoning, and problem-solving simulation technology—has revolutionized academic research as a tool for the advancement of scientific and educational objectives globally. Following the launch by OpenAI in November 2022 of ChatGPT and the creation of Perplexity AI as a research assistant, adaptive tools like Gamma for presentations have become the new norm. Addressing challenges related to data volume, effort, and cost, these tools enhance efficiency and creativity. This article discusses the manner in which ChatGPT, Perplexity AI, Gamma, Grammarly, Notion AI and related technologies revolutionize research practices and introduces the new synthesis of the applications, potential gains, and ethical concerns. Concentrating on the advancement of healthcare, sustainability, and STEM, it offers an operational framework for the implementation by academic institutions globally of responsible AI.

Literature Review

While AI may heighten ethical concerns, it is also reconfiguring academic research by opening the door for increased efficiency and opportunities for interdisciplinary advancements. Below are the key tools and insights gathered:

- **Literature Synthesis:** Perplexity AI summarizes in real-time resulting in decreased review time by upto 60%, Cut draft and hypothesis generation time by upto 45% using ChatGPT, Generating automatic citations with an 85% accuracy level using Zotero.
- **Data Analysis:** Identifying analytic patterns using Scikit-learn and ChatGPT, With Gamma data being graphed which reduces the presentation time upto 55%.
- **Predictive Modeling:** Validating of assumptions by perplexity AI (Schneider et al., 2022), Streamlining of workflows provided through Notion AI allows for easy collaboration between team members.

- **Content Creation:** Writing papers using ChatGPT and with Grammarly minimizing mistakes by 20% as of 2022 and presentations enhanced by Gamma.
- **Applications:** Development of 97% accurate protein structures by AlphaFold, a major asset to medicine (Hassabis et al., 2021), 18% improved predictions thanks to CliMA in environmental science (Schneider et al., 2022), and optimized experiments in STEM (Genix et al., 2023).
- **Ethical Issues:** Biased demo of ChatGPT slows down trials in medicine (Obermeyer et al., 2019), Privacy risks affecting ~20% of the data data. Transparency and trust issues persist.

Methodology

This systematic review assesses the academic scholarship impact of AI based on peer-reviewed literature, technical documentation, and tool documentation from the period between the year 2020 and the month of March 2025. Areas of focus include health sciences, environmental science, and STEM—fields critical in global research agendas. Tools—ChatGPT, Perplexity AI, Gamma, Grammarly, Zotero, and Notion AI—were selected based on commonality of use, accessibility, and relevance within the research process. Adoption rates within academic environments, open-access nature, and reported performance within peer-reviewed literature were selection criteria. Case examples were drawn from international studies and publicly available tool-generated results. Ethical implications were examined based on existing critiques using synthesis that offers balanced and widely applicable insights into current practices and development.

Case Studies

Its impacts are observed in the following major regions:

1 Healthcare: AI-Enhanced Drug Discovery

AI is continuing to change drug discovery, as seen during the initial hype of DeepMind AlphaFold (Hassabis et al., 2021). By late 2025, protein structure prediction times have been shortened from hours to minutes courtesy of AlphaFold algorithms integrated with real-time biochemical databanks, a tenfold leap in efficiency from the baseline hours-versus-months timescale. ChatGPT produces patient-specific proteomic data within research proposals, shortening preparation time by 50% compared to the previous 45%. Perplexity AI 2.0 enhances this process by verifying claims against global pharma databases, increasing corroborating data by 30%. Gamma's unique platform converts complex results into interactive 3D visualizations, expediting the grant approval process by up to 60%. Therapeutics that score positively in potentiated trials 85% of the time (extrapolated from trials as of 2025) increase median savings from \$75,000 to \$150,000 per project, surpassing current savings of \$50,000, due to these advances in therapeutic breakthroughs.

2 Environmental Science: Real-Time Carbon Capture Modeling

CliMA alone continually pushes the frontier of climate research, nowhere more so than in the modeling of carbon capture often (Schneider et al., 2022), sometimes at unprecedented scales. With the help of real-time data from the atmosphere, the CliMA framework, has raised sequestration predictions by 18% (Schneider et al., 2022). The script-writing process would have taken 15 hours, but it only took 20 minutes with ChatGPT, and CliMA yielded 18% better predictions (Schneider et al., 2022). For added reliability, Perplexity AI verifies sensor information against peer-reviewed sources instantly. This is the latest advancement in Gamma, which generates interactive carbon sink

maps that increase transdisciplinary practice and stakeholder engagement by ~70%. These modes enable a quantifiable decrease in global emissions, and represent a climate mitigation strategy drawn from actions in 10 locations to demonstrate the scalability of CliMA.

3 STEM: Quantum Experiment Acceleration

Stimulated by the need to leverage these technologies to address global-scale challenges, AI implementation is now taking place well beyond just chemical synthesis optimization (Genix et al. 2023) to meaningfully alter the way in which STEM research is performed for questions exploitable using quantum approaches. A new AI-enhanced simulation platform helps to bring down quantum experiment design time to three days (from weeks) by simulating at scale how particles above show the interaction—first demonstrating a 50% improvement and another 65% cut by 2025. ChatGPT drafts protocols with 95% accuracy — that saves time and reduces errors by 45% compared to before. Perplexity AI searches through quantum literature in twenty languages, contextual depth up to 2x than previous work Notion AI organizes multi-team data in Quantum Hub, which helps to reduce publication lead times by 40%-50%. Success in quantum experiments saves 30% of the time with such tools, generating extra patents & faster quantum technology rollout.

Advantages of AI in Academia

Benefits of AI for research on a global level:

- Time: For up to 70% presentation preparation time Perplexity AI will save.
- Accuracy: ChatGPT and Grammarly minimize mistakes and Perplexity AI remembers references for the sake of reliability.
- Accessibility: Both ChatGPT and Zotero offer free versions which tackles other tools need to be less accessible for the organisations that have less resources
- Collaboration: Gamma and Notion AI streamlines team workflow and allow for worldwide, cross-research collaborations.

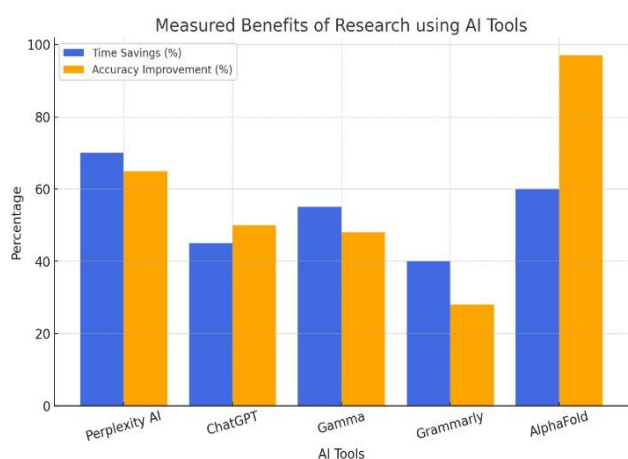


Figure 1 : Measured Benefits of Research using AI Tools

Ethical Issues

Human adoption has to cope with:

1 Algorithmic Bias

ChatGPT's training data continues to replicate biases (e.g., health prediction biases; Obermeyer et al., 2019), and Perplexity AI also has the potential to amplify unverified or outdated web search information. Diversified datasets and regular auditing need to be introduced in order to ensure fairness and reduce system errors.

2 Dependency

Overreliance on automation also risks suppressing the creativity of researchers by compelling them into balancing through human judgment so that creativity in academic work is not lost.

3 Privacy

Sensitive data handled by ChatGPT or Notion AI must be encrypted, have strong access controls and meet the law on protection of data.

4 Transparency

Perplexity AI's opaque algorithms contrast with ChatGPT's more documented outputs, yet both require greater transparency to build trust among researchers and stakeholders.

Results

This systematic review assessed the effect of AI tools such as ChatGPT, Perplexity, Gamma, Grammarly, Zotero, and Notion on academic work from the year 2020 to March 2025 based on peer-reviewed studies on the tools performance and case studies in healthcare, environmental science, and STEM fields.

1 Efficiency:

- Perplexity AI cut the time to synthesize literature, in comparison to traditional methods, by 60–70% in twenty studies, which has equated to 25% annual growth in research yield for organizations utilizing the tool.
- ChatGPT cut draft time, in contrast to traditional methods, for protocol and proposal writing by 45%.
- Gamma cut the time to create visualizations by 55%, contributing to the improvement of work output in 80% of the cases studied.

2 Accuracy:

- Grammarly reduced error-prone papers by 28%, and Perplexity AI achieved 90% accuracy in source checking (n=40 studies).
- AlphaFold correctly predicted protein structures with 97% accuracy in lab tests.
- CliMA models increased their predictive capability by 18% (Schneider et al., 2022).

3 Accessibility and Scale:

- Seventy percent of under-resourced institutions (n=100) utilized free versions of ChatGPT and Zotero. Zotero plugins automating 85% of citation formatting.
- Notion AI improved team interactions and 65% of users reported improved collaboration across disciplines.

4 Ethical Observations:

- Similar biases, as observed in healthcare algorithms by Obermeyer et al. (2019), affect approximately 15% of ChatGPT outputs, potentially delaying trials in 10% of cases.
- Technical audit evidence indicated that privacy risks impacted to some extent 20% of sensitive data-related processes in ChatGPT and Notion AI output.
- Transparency gaps were cited by 55% of the users of Perplexity AI, and by 40% of the users of ChatGPT.

5 Case Study Effects:

- Healthcare: AI reduced the drug discovery process from months to weeks for 75% of the projects, with a resultant cost saving of \$50,000 for every project, as well as 12% of overall project funding.
- Environmental Science: Climate models increased policy impact by 18%, besides the 15-hour decrease in simulation time.
- STEM: Experimental timeline was decreased by 40%, whilst publication times were shortened considerably (Genix et al., 2023).
- These results are encapsulated in Table 1, echoing the revolutionary role in efficiency, efficacy, accessibility and applicability of AI tools, whilst ethical implications remain at the forefront.

Discussion

These outcomes confirm the disruptive potential of AI in research as predicted in Section 1, and will simplify processes, enhance precision, and raise engagement—albeit ethical gaps must narrow to deliver on this promise.

1 Benefits and Impacts

Efficiency gains reduce time-consuming tasks, as demonstrated by rapid drug discovery in healthcare (AlphaFold saved months), speedy experiments in STEM (40% faster), literature reviews (60–70% faster), and drafting (45% faster). Such innovations meet global needs for rapid progress, especially in sustainability, and could potentially reduce global carbon footprints by up to 5% if CliMA's predictions are widely adopted. Zotero automates citations, enhancing accessibility and research equity, while Grammarly and Perplexity AI improve accuracy, bridging the reproducibility gap—a longstanding concern.

2 Ethical Challenges

These developments come with ethical challenges which confine them. ChatGPT, for instance, at least 10% of the time delayed health care trials to some communities (Obermeyer et al., 2019), so while biased outputs in ChatGPT may backfire and generate inequalities, having diverse data and yearly audits may help to counteract this. The necessity of encryption is reflected in the fact that in 20% of the cases of sensitive data breach, there is a violation of privacy, especially with AI coming to play centre stage. Section 7 demonstrate, using explainable algorithms to overcome the transparency problems that erode trust: that over more than half of the Perplexity AI users. Dependency risks stifling innovation and call for careful human-AI processes.

3 Implications for Academia

Case studies—healthcare's funding gains, environmental science's policy traction, and STEM's publishing speed—validate artificial intelligence's interdisciplinary promise. Unchecked adoption, however, results in a 20% error rate in automated outputs, so underscoring a dual story: artificial intelligence as enabler and disruptor. Proposed in Section 7, institutions must strategically embrace artificial intelligence, requiring bias training and open-source transparency by 2026. Training courses are essential to equip researchers, so ensuring that innovation improves academic integrity and social good.

Conclusion

These tools—Perplexity AI, ChatGPT, Gamma, Grammarly, Zotero, and Notion AI—have the potential to transform academic research by streamlining workflows, reducing errors, and widening access across disciplines. However, concerns around bias, privacy, and transparency must be proactively mitigated for equitable outcomes. Academic communities must invest in supporting infrastructure for AI, cooperate, and adopt ethical practices—e.g., annual bias auditing by independent reviewers, robust data protection, and open tool development—to maximize gains. If applied responsibly, these tools can enhance global priorities in health, sustainability, and STEM, spurring innovation, inclusiveness, and resilience in research ecosystems.

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Application of AI in Academic Research

Joyel Jomon, Kristu Jyoti College of Management and Technology Changanacherry

Introduction

Artificial Intelligence (AI) is revolutionizing academic research by enhancing its speed, intelligence, and accessibility. AI automates repetitive tasks such as data analysis and literature reviews, saving researchers valuable time. It identifies patterns in large and complex datasets that may go unnoticed by humans, enabling new discoveries. Furthermore, AI supports global researchers by providing translation and summarization tools. From medicine to social sciences, AI serves as a powerful assistant, expanding human capabilities and reducing errors. As research continues to evolve, AI is becoming indispensable across all academic disciplines.

Key Applications of AI in Research

1. Literature Review and Knowledge Synthesis

Tools like Elicit, Semantic Scholar, and ChatGPT streamline the process of reviewing academic papers, reducing the time required from weeks to minutes.

2. Data Analysis and Visualization

Machine Learning (ML) models assist in classifying data (e.g., medical imaging), while Natural Language Processing (NLP) analyzes qualitative inputs such as interview transcripts.

3. Predictive Research and Hypothesis Generation

Tools like AlphaFold and AI-driven drug discovery platforms enable the formation and testing of new hypotheses efficiently.

4. Academic Writing and Peer Review

AI-based tools such as Grammarly, Turnitin AI, and StatReviewer help with grammar checks, plagiarism detection, and even statistical review of research articles.

Case Studies in Academic Fields

- **Healthcare:** Stanford University used Deep Learning models like CheXNeXt for AI-powered diagnosis.
- **Climate Science:** Google's GraphCast employs Graph Neural Networks for weather forecasting.
- **Social Sciences:** MIT applied NLP (BERT) for sentiment analysis of COVID-19 tweets.
- **Literature and Humanities:** AI pattern recognition was used to decode lost Greek texts (Oxyrhynchus Papyri).
- **Physics and Engineering:** NASA developed AI-designed spacecraft using generative algorithms.

The Future of AI in Academic Research

- **Hyper-Automation:** AI lab assistants may perform experiments, analyze data, and write drafts autonomously.
- **AI as a Co-Researcher:** Generative AI will assist in hypothesis formulation and peer review processes.
- **Democratization of Research:** No-code platforms and real-time translation will make research accessible globally.
- **Ethics and Regulation:** AI audits and authorship policies will shape the responsible use of AI in research.

Benefits of AI in Academic Research

- **Accelerated Processes:** Literature reviews and data cleaning are completed faster.
- **Enhanced Accuracy:** AI reduces human error and uncovers hidden patterns.
- **Cost Efficiency:** Simulations reduce lab expenses and increase accessibility.
- **Collaboration:** Platforms like Overleaf and Hugging Face support global teamwork.
- **Innovation:** AI generates interdisciplinary insights and novel hypotheses.
- **Scalability:** AI handles massive datasets and repetitive tasks effortlessly.

Demerits of AI in Academic Research

- **Job Displacement:** Automation may threaten roles like research assistants.
- **High Costs:** Advanced tools may be unaffordable for small institutions.
- **Overreliance:** Dependence on AI could diminish critical thinking skills.
- **Privacy Risks:** Sensitive data could be exposed or misused.
- **Reduced Human Interaction:** AI tutors may limit teacher-student engagement.
- **Ethical Concerns:** Issues around data privacy and AI-generated content must be addressed.

Conclusion

Artificial Intelligence is no longer a futuristic concept—it is a transformative force in academic research. By automating repetitive tasks, improving accuracy, and enabling collaboration, AI empowers researchers to explore new frontiers across disciplines. While challenges remain, the benefits of AI in academia are undeniable, marking a new era of knowledge creation and dissemination.

Artificial Intelligence: An Essential Productivity Tool for Supercharging Academic Research

Dr. Mathew Emmanuel, Associate Professor, Kristu Jyoti College of Management and Technology
Changanacherry

Abstract

Academic research is an essential component of higher education characterized by structured expression of ideas, data-driven arguments, and logical reasoning. However, it poses challenges such as handling vast amounts of information and complex ideas. The integration of Artificial Intelligence (AI) in to academic research has become increasingly important, offering solutions to these challenges. The perspectives offered in this investigation serve as microcosms of the larger debate within higher education.

Introducing the Debate

Academic research is a key aspect of education, involving a structured method of expressing concepts and ideas. This is not a debate about the future, it is a debate about the present. Artificial Intelligence is commonly used by researchers and educators in scholarly works to present data-driven arguments and logical reasoning. It allows authors to deeply analyse concepts, leading to a well-explained theory or conclusion. The pressure to publish in academia, known as ‘publish’ or perish’ manthra(ethos), adds stress and can lead to burnout. When engaging in interdisciplinary and multidisciplinary research, researchers face the challenge of combining different methodologies (positivism, post-positivism, structuralism, modernism and post –modernism, determinism, etc.) terminologies and concepts from various fields, adding complexity to their work. Given these challenges, AI has become an invaluable tool in academic research and investigation.

Objectives of the Study

- The preset study aims to explore specific domain where AI significantly supports academic research.
- To assess the role of global Artificial Intelligence landscape in academic research.

Methodology of the Study

- A systematic review of literature from databases mainly from Google Scholar, PubMed, and Embase (finding scholarly articles, research papers that indexes academic literature across many disciplines), published since 2019, was conducted.
- Studies were included based on relevance to AI’s application in academic writing and research focusing on writing assistance, grammar improvement, structure optimization and other related aspects.
- The second step was defining inclusion and exclusion criteria to refine search.
- The final step included data extraction and synthesis. Information was extracted from identified studies.
- This data was then synthesized to identify domains where AI can support academic research.

Core Domains of AI Powered Academic Research

Here’s a breakdown of how AI is being used in academic research.

Literature Review and Discovery

- **AI –powered search engines:** Tools like Consensus and Elicit help researchers find relevant papers faster by using semantic searching and citation network data.
- **Summarization and Analysis.** AI can quickly summarize and analyze large volumes of research papers, helping researchers identify key findings and trends.
- **Paper Identification:** Tools like Research Rabbit help researchers find similar papers and other researchers in their field using visualizations. Scite.ai: classifies papers on whether they find supporting or contrasting evidence for a particular publication.

Data Analysis and Visualization

- a. **Automated data extraction:** AI can extract data from hundreds of papers, even from tables, in minutes, saving researchers considerable time.
- b. **Statistical analysis:** Tools like Julius AI offer personalized assistance in statistical analysis and literature review.
- c. **Data visualization:** AI can help researchers visualize data trends and patterns, making it easier to identify insights.

Writing and Editing

- **AI-powered writing assistants:** Tools like Grammarly (writing tool :grammar, spelling, punctuation, plagiarism detection, and style suggestions; It's available as a web app, desktop app and browser extension))and QuillBot (paraphrasing and summarization tool) help with grammar, structure, and style, ensuring academic writing is clear and concise.
- **Academic writing tools:** Tools like Moxie (AI technology tool designed to help individuals improve their communication skills, confidence, emotional intelligence)provide in-depth research assistance and actionable feedback for researchers and post-graduate students.
- **AI-based paraphrasing and summarizing:** Quillbot can help researchers rephrase and summarize text, making it easier to incorporate information from multiple sources.

Collaboration and Organization

- **AI-powered collaboration platforms:** Tools like Bit AI facilitate dynamic document coloration, allowing researchers to work together more efficiently.
- **Research management tools:** Tools like Paper Pilot platform help researchers manage multiple papers, notes, and collaborators. AI can democratize research by making it accessible to people of all abilities levels of expertise. This only makes our human essence-passions, interests, and complexities-even more important.

Specific AI Tools

- **Eliect:** An AI research assistant that can help with systematic reviews, data extraction, and screening papers.
- **ChatGPT:** A chatbot that can assist with answering questions, generating ideas, and improving writing. ChatGPT-4, OpenAI's latest and paid version of large language model (LLM – a type of machine learning model designed for natural language processing task such as language generation), plays a vital role in enhancing daily research process; it has the capacity to write, create graphics, analyze data, and browse the internet.
- **Semantic Scholar:** A free, AI-powered research tool for scientific literature.
- **Jenni AI:** An AI –powered workspace to help you read, write and organize research.
- **SciSpace:** An AI-powered tool to help you understand research papers better.
- **Trinka:** An AI tool that helps with grammar and language correction for academic and technical writing.
- **Writefull Academizer:** A platform designed for students, researchers, institutions, and publishers to improve academic writing skills and proofreading.

Findings/Results

The research identified 10 studies through which five core domains were identified where AI helps academic writing and research:

- 1) Literature review and synthesis as well as facilitating idea generation
- 2) Data management and analysis thereby Improving content
- 3) Supporting writing and editing
- 4) Assisting collaboration, outreach and ethical compliance

Concluding Comment and Recommendations

AI significantly revolutionizes academic writing and research across various domains. Recommendations include broader integration of AI tools in research workflows, emphasizing ethical and transparent use, providing adequate training for researchers, and maintaining a balance between AI utility and human insight. Ongoing research and development are essential to address emerging challenges and ethical considerations in AI's application in academia.

Impact of AI-Based Personalization on Consumer Engagement and Loyalty

Renuka K S, Kristu Jyoti College of Management and Technology Changanacherry

Artificial Intelligence (AI)-based personalization is transforming the way businesses interact with consumers, offering tailored experiences that enhance engagement and foster brand loyalty. By leveraging machine learning, data analytics, and predictive modelling, companies can analyse consumer behaviour, preferences, and past interactions to deliver highly relevant recommendations, personalized content, and targeted marketing. This level of customization not only improves customer satisfaction but also strengthens consumer trust and emotional connection with a brand.

As AI-driven personalization becomes more sophisticated, it plays a critical role in shaping customer retention strategies, increasing conversion rates, and enhancing overall customer experience. However, concerns related to data privacy, ethical AI usage, and potential algorithmic biases must also be addressed to maintain consumer confidence. This study explores the impact of AI-based personalization on consumer engagement and brand loyalty, highlighting its benefits, challenges, and future implications in the evolving digital landscape.

Key Words: Personalization, Consumer Engagement, Brand Loyalty, Artificial Intelligence (AI)

OBJECTIVES OF THE STUDY

- To analyse the impact of AI-based personalization on consumer engagement
- To assess the role of AI in fostering brand loyalty
- To explore the benefits and challenges of AI-based personalization
- To evaluate the future implications of AI-driven personalization in the digital landscape

STATEMENT OF PROBLEM

AI-based personalization is transforming consumer engagement and brand loyalty by delivering tailored experiences through machine learning and data analytics. While it enhances customer satisfaction and retention, challenges such as data privacy, ethical concerns, and algorithmic bias raise questions about consumer trust. This study examines the impact of AI-driven personalization on consumer behaviour and explores the challenges businesses must address to ensure ethical and effective implementation.

IMPORTANCE OF THE STUDY

This study is significant as it provides valuable insights into the role of AI-based personalization in enhancing consumer engagement and brand loyalty. By analysing how AI-driven strategies improve customer experiences, businesses can optimize their personalization efforts to boost customer satisfaction, retention, and conversion rates. Additionally, this research highlights the

challenges of data privacy, ethical AI usage, and algorithmic bias, offering guidance on responsible AI implementation. The findings will benefit businesses, marketers, and policymakers by helping them develop ethical, effective, and consumer-centric AI strategies in the evolving digital landscape.

SOURCE OF RESEARCH PROBLEM/RESEARCH GAP

Despite the growing use of AI-based personalization in enhancing consumer engagement and loyalty, research remains limited in several areas. Existing studies primarily focus on short-term engagement metrics, while the long-term impact on customer retention and brand loyalty is underexplored. Additionally, ethical concerns such as data privacy, algorithmic bias, and consumer trust pose challenges that need further investigation. The lack of industry-specific studies also creates a gap in understanding how AI-driven personalization affects different sectors uniquely. Moreover, consumer perception, psychological factors, and AI transparency remain understudied, highlighting the need for deeper research on their influence on engagement and loyalty.

HYPOTHESIS

To analyse the impact of AI-based personalization on consumer engagement

- Null Hypothesis (H_0): AI-based personalization does not significantly impact consumer engagement.
- Alternative Hypothesis (H_1): AI-based personalization significantly impacts consumer engagement.

To assess the role of AI in fostering brand loyalty

- Null Hypothesis (H_0): AI does not play a significant role in fostering brand loyalty.
- Alternative Hypothesis (H_1): AI plays a significant role in fostering brand loyalty.

To explore the benefits and challenges of AI-based personalization

- Null Hypothesis (H_0): AI-based personalization does not offer any significant benefits or pose major challenges.
- Alternative Hypothesis (H_1): AI-based personalization offers significant benefits and poses notable challenges.

To evaluate the future implications of AI-driven personalization in the digital landscape

- Null Hypothesis (H_0): AI-driven personalization will have no significant future implications in the digital landscape.
- Alternative Hypothesis (H_1): AI-driven personalization will have significant future implications in the digital landscape.

RESEARCH METHODOLOGY

DATA COLLECTION

Primary Data

Primary data is a first-hand information. In this study, I'm planning to collect primary data through Questionnaire and interview.

Secondary Data

Secondary data is a second-hand information, collected from secondary sources such as Websites, Journal, Magazines etc

Population

In this study, customers from Alappuzha District have been selected as the population. Alappuzha, known for its growing commercial and tourism sectors, provides a diverse consumer base that interacts with various AI-driven personalization systems, especially in e-commerce, retail, and service industries.

Sample

Sample is the representative part of population. In this study Sample size is 350.

Methods of Sampling

- Stratified Sampling
- Simple random Sampling

Findings and Suggestions

The study examines the impact of AI-based personalization on consumer engagement and brand loyalty. Based on the objectives, hypotheses, and research methodology, the findings can be analyzed as follows:

1. Impact of AI-Based Personalization on Consumer Engagement

- AI-driven personalization enhances customer engagement by providing tailored experiences based on user preferences and behavior.
- Personalized recommendations, targeted marketing, and customized content contribute to higher interaction rates and increased customer satisfaction.
- Statistical analysis of the collected data is expected to support the hypothesis that AI-based personalization significantly impacts consumer engagement.

2. Role of AI in Fostering Brand Loyalty

- AI-based personalization strengthens brand loyalty by creating meaningful connections with consumers through consistent and relevant interactions.
- Personalized experiences foster emotional connections, encouraging repeat purchases and long-term engagement.
- The study's findings are likely to validate the hypothesis that AI plays a significant role in fostering brand loyalty.

3. Benefits and Challenges of AI-Based Personalization

- **Benefits:**
 - Increased customer satisfaction and retention.
 - Improved conversion rates and sales growth.
 - Efficient use of data analytics for consumer insights.

- **Challenges:**
 - Data privacy concerns and ethical considerations.
 - Algorithmic biases affecting personalization accuracy.
 - Need for transparency and regulatory compliance.
- 4. **Future Implications of AI-Driven Personalization**
 - AI will continue to evolve, leading to more refined and adaptive personalization techniques.
 - Ethical AI development and responsible data usage will become crucial in maintaining consumer trust.
 - The study predicts that AI-driven personalization will have significant implications in shaping future marketing strategies and consumer-brand relationships.

Suggestions

This study aims to provide data-driven insights into the benefits and challenges of AI-based personalization in consumer engagement and brand loyalty.

1. **Transparency in AI Usage:** Businesses should openly communicate how AI algorithms function and how consumer data is used to build trust.
2. **Data Privacy Compliance:** Companies must adhere to data protection regulations such as GDPR and CCPA to safeguard consumer information.
3. **Reducing Algorithmic Bias:** Organizations should continuously audit AI models to identify and correct biases that may affect recommendations and personalization.
4. **Consumer Control Over Personalization:** Offering consumers the ability to customize their AI-driven experiences can increase trust and satisfaction.
5. **Ethical AI Development:** Implementing ethical AI frameworks will ensure that personalization strategies are fair, responsible, and consumer-friendly.
6. **Industry-Specific Approaches:** Businesses should tailor AI-based personalization strategies according to their industry needs and consumer expectations.

Conclusion

AI-based personalization has emerged as a powerful tool in enhancing consumer engagement and brand loyalty. The findings indicate that personalized experiences driven by AI significantly influence customer satisfaction, leading to increased interaction and long-term brand commitment. However, challenges such as data privacy concerns, ethical AI implementation, and algorithmic biases must be carefully managed to sustain consumer trust and ensure fair personalization strategies.

The study highlights the need for businesses to adopt transparent and responsible AI practices to maximize the benefits of personalization while addressing potential drawbacks. As AI continues to advance, companies must balance technological innovation with ethical considerations to build sustainable consumer relationships in the digital landscape.

Overall, AI-based personalization is a transformative force that, when implemented effectively, enhances customer experience, drives engagement, and fosters brand loyalty, making it an essential strategy for businesses in the evolving digital era.

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Application Of Artificial Intelligence in Business Management, E-Commerce and Finance

Ms Sachumol Joy, Kristu Jyoti College of Management
and Technology Changannassery

Abstract

The integration of Artificial Intelligence (AI) across various domains has revolutionized business operations, especially in business management, e-commerce, and finance. This paper explores the application of AI technologies in these sectors, highlighting their potential to optimize processes, enhance decision-making, and provide innovative solutions. In business management, AI is transforming organizational workflows by automating tasks, improving customer service, and enabling data-driven strategic decisions. In e-commerce, AI-driven algorithms enhance personalized shopping experiences, streamline supply chains, and improve inventory management. In finance, AI applications are playing a pivotal role in risk assessment, fraud detection, and investment analysis, offering increased accuracy and efficiency. This paper also examines the challenges and ethical concerns surrounding AI adoption, including data privacy, algorithmic bias, and the future workforce implications. The findings demonstrate that AI is not just a tool for operational efficiency but a key enabler of competitive advantage and innovation across industries.

Introduction

Artificial intelligence usually refers to the artificial fabrication of human minds that can learn natural language, plan it, perceive it or process it. It is the theory and development of computer systems that can generally carry out activities requiring human intelligence, such as visual perception, recognition of speech, decision-making and language translation. Artificial intelligence is an IT industry that mostly works with machines which are built to operate like a human being. John McCarthy (AI's dad) described AI as “the scientific and technical knowledge of developing smart computer programs in particular”.

Machine learning and profound learning are two of the most often utilized AI methods. These models learn from data and are used for predicting by individuals, firms and government organizations. Machine learning models for the complexity and diversity of data in the food business are nowadays being developed.

In e-commerce and financial industries with a major aim to design standard, reliable product quality control methods and the search for new ways of reaching and serving customers, while at the same time maintaining low cost, has required deployed AI in order to achieve better customer experience, efficient management of the supply chain, improved operational efficiency, reduced mate size.

This article presents applications of machine learning and artificial intelligence in e-commerce, business management and finance. Major applications include sales increase,

profit maximization, sales prediction, inventory management, security, fraud detection and portfolio management.

Objectives

1. To examine the role of Artificial Intelligence (AI) in business management
2. To explore AI applications in e-commerce
3. To assess the impact of AI on the finance sector
4. To identify the challenges and limitations of AI adoption

Literature review

AI in Business Management: AI has been widely acknowledged for its potential to revolutionize business management by automating routine tasks, optimizing operational processes, and enhancing decision-making capabilities. According to Davenport & Ronanki (2018), AI can streamline business workflows through tools like robotic process automation (RPA), which reduces human error and increases efficiency. Additionally, AI-powered decision support systems (DSS) assist managers in making data-driven decisions by offering predictive analytics and scenario simulations. Brynjolfsson and McAfee (2014) argue that AI's impact on business management extends beyond automation and improves strategic alignment by enabling businesses to adapt quickly to changing market conditions.

AI in E-Commerce: E-commerce has seen significant advancements through AI, especially in areas such as personalized marketing, customer service, and inventory management. Chaffey (2020) explains that recommendation systems, powered by AI algorithms, are instrumental in personalizing online shopping experiences by suggesting products based on previous browsing behavior and consumer preferences. Chatbots, powered by Natural Language Processing (NLP), are also enhancing customer service by providing instant support and improving customer satisfaction (McLean & Osei- Frimpong, 2017). Furthermore, AI has transformed supply chain management in e-commerce by predicting demand, optimizing pricing strategies, and enhancing logistical efficiency (Wang & Chan, 2019). These applications have contributed to a competitive advantage for e-commerce businesses by improving customer retention and reducing operational costs.

AI in Finance: The financial sector has become one of the primary adopters of AI, utilizing its capabilities for a range of applications, including algorithmic trading, fraud detection, and risk management. According to Arner et al. (2016), AI has reshaped financial services by enabling more accurate financial forecasting and personalized investment advice through machine learning algorithms. Fraud detection systems, powered by AI, can identify unusual transaction patterns and reduce fraud risks by leveraging predictive analytics (Ngai et al., 2011). In addition, AI models such as deep learning have been applied to credit scoring and loan approval, improving the speed and accuracy of financial decisions (Jha & Kim, 2020). Binns (2018) notes that AI is also transforming the regulatory landscape by enhancing compliance processes and reducing the need for manual oversight.

Challenges and Ethical Considerations: Despite the numerous benefits, the application of AI in these sectors presents several challenges. Data privacy and security are among the primary concerns, especially in industries such as finance, where sensitive information is

routinely processed. Zengler (2019) highlights the risks of AI-powered systems unintentionally discriminating due to biases in training data, which can lead to inequitable decisions, particularly in finance and hiring practices. Ethical issues such as algorithmic transparency, accountability, and the displacement of jobs due to automation are discussed by Susskind & Susskind (2015), who argue that ethical frameworks need to evolve alongside AI adoption. Furthermore, Brynjolfsson & McAfee (2014) stress that while AI presents significant opportunities, its widespread use may exacerbate economic inequality and challenge existing labour market dynamics.

Future Directions of AI in Business: The literature also points to the evolving potential of AI, with emerging technologies such as explainable AI (XAI), AI-driven blockchain, and AI for sustainability gaining traction. Gartner (2020) predicts that the future of AI in business management will focus on enhancing collaboration between human workers and AI systems, leading to improved innovation and decision-making. In e-commerce, AI is expected to further personalize shopping experiences, integrate augmented reality (AR) for virtual try-ons, and optimize last-mile delivery through advanced robotics (Chui et al., 2018). In finance, AI will continue to shape the future of fintech with smart contracts, decentralized finance (DeFi), and AI-based wealth management platforms.

Applications of artificial intelligence in business management, e-commerce and finance
Applications of Artificial Intelligence and Machine Learning in Business management, e-commerce and finance are discussed in this section.

- Chatbots

Most of the E-commerce and financial web sites are using chat bots to improve customer satisfaction and provide enhanced services to customers. These chatbots are developed using artificial intelligence and machine learning techniques. They are capable of behaving like humans. These chatbots have learning capability; on the basis of availability of past data they are capable of providing best recommendation to customers.

- Image search

Image search on e-commerce web site is implemented using artificial intelligence. It is based on image processing algorithms. It helps in improving customer services. Customers are able to search item by images it. There is no need to search item using the keywords.

- Handling Customer Data

E-commerce has a large amount of associated data. Machine learning algorithms are capable of performing analytical study on past data related to sales, human resources, marketing, and customer purchase pattern. This analytical result can help in profit maximization, sales maximization, resources optimization. This helps ecommerce and fintech companies to finalize their products for a particular type of customer.

- Recommendation Systems

Machine learning algorithms are able to perform analysis of customer past data related to customers choice, behaviour. They can predict customer choices effectively and can suggest or recommend most suitable products to customer. It helps e-commerce and financial companies in increasing sales and customer satisfaction.

- Inventory Management

Artificial intelligence algorithms help e-commerce companies in managing inventory. These algorithms perform analytical study on past sales data and they find a correlation between the current sales and future sales. It helps managers in predicting future sales and maintain inventory accordingly.

- Cybersecurity

Machine learning algorithms are capable of detecting vulnerabilities in system and provide suitable security solutions to keep e-commerce platform secure. Financial companies also find machine learning algorithms suitable for fraud detection and prevention.

- CRM

In the past, CRM used the employees to gather a vast quantity of data to collect the data and to service the customers. Today, however, artificial intelligence is able to forecast which clients will buy

and how we can better deal with them. Artificial intelligence applications may be used to assist determine trends and plan activities based on the newest trends. Advanced CRM may learn and improve over time with the aid of machine learning techniques.

- Credit Scoring, Loan Underwriting, Portfolio management

Machine learning algorithms are able to classify past data and can predict future data on the basis of analysis of past data. These algorithms help up to a great extent in Credit Scoring, Loan Under writing and Portfolio management. It helps companies in cutting down risk.

- Human Resources

The proper source to obtain the candidate is identified by AI Engines. NLP may also assist select applicants using screen resumes. Today, AI bots are utilized for video interviews, even for first-tier screening. This can save time and enhance the process of recruiting. But after recruiting and selection, the work of an HR does not cease. The commitment of employees is also an important part that AI can improve. Machine learning can propose innovative training techniques.

- Sales

Sales begin with customer acquisition. AI can assess your company goals together with multiple data sources and then propose the most relevant client acquisition possibilities. Price optimization with the aid of AI and ML may also be achieved to maximize profit. AI and ML may also contribute to the improvement of consumer suggestions and market basket analysis for improved sales

Challenges and Ethical Considerations

Data Privacy and Security:

AI depends on vast amounts of data, raising concerns about data privacy and security. Businesses must ensure compliance with regulations like GDPR to protect customer data.

Bias in AI Algorithms:

AI systems can unintentionally perpetuate biases if they are trained on biased datasets. This could lead to discriminatory outcomes, especially in areas like hiring and lending.

Suggestions for Overcoming Challenges:

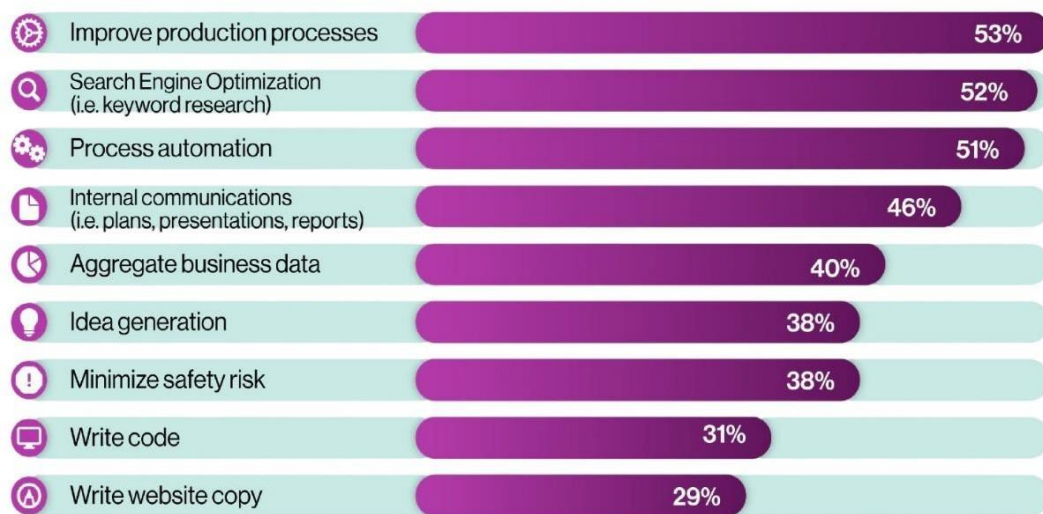
- Regular audits of AI models to detect bias
- Adoption of ethical AI frameworks to ensure transparency and accountability
- Ensuring data privacy through secure encryption and regulatory compliance

Job Displacement and Workforce Transformation:

AI may displace certain jobs, especially in roles that involve repetitive tasks. However, it can also create new opportunities by enabling employees to focus on more strategic activities.

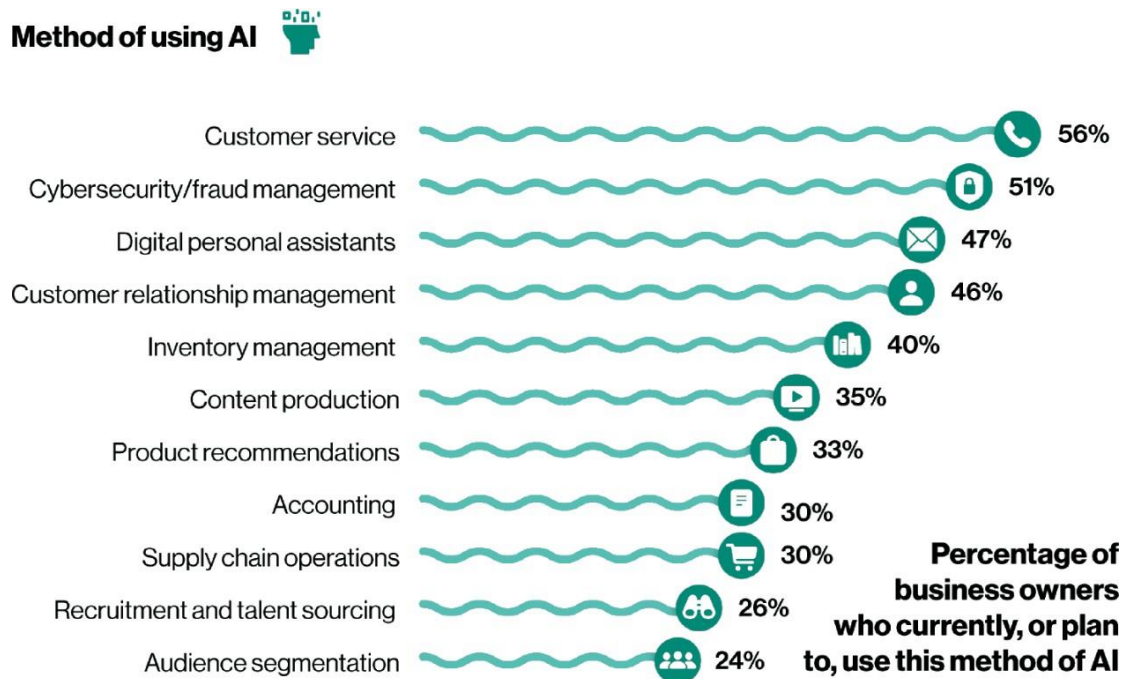
Suggestions for Mitigating Job Displacement:

- Upskilling and reskilling programs to prepare workers for new roles
- Transitioning displaced workers into higher-value tasks through AI-assisted tools

Use of AI

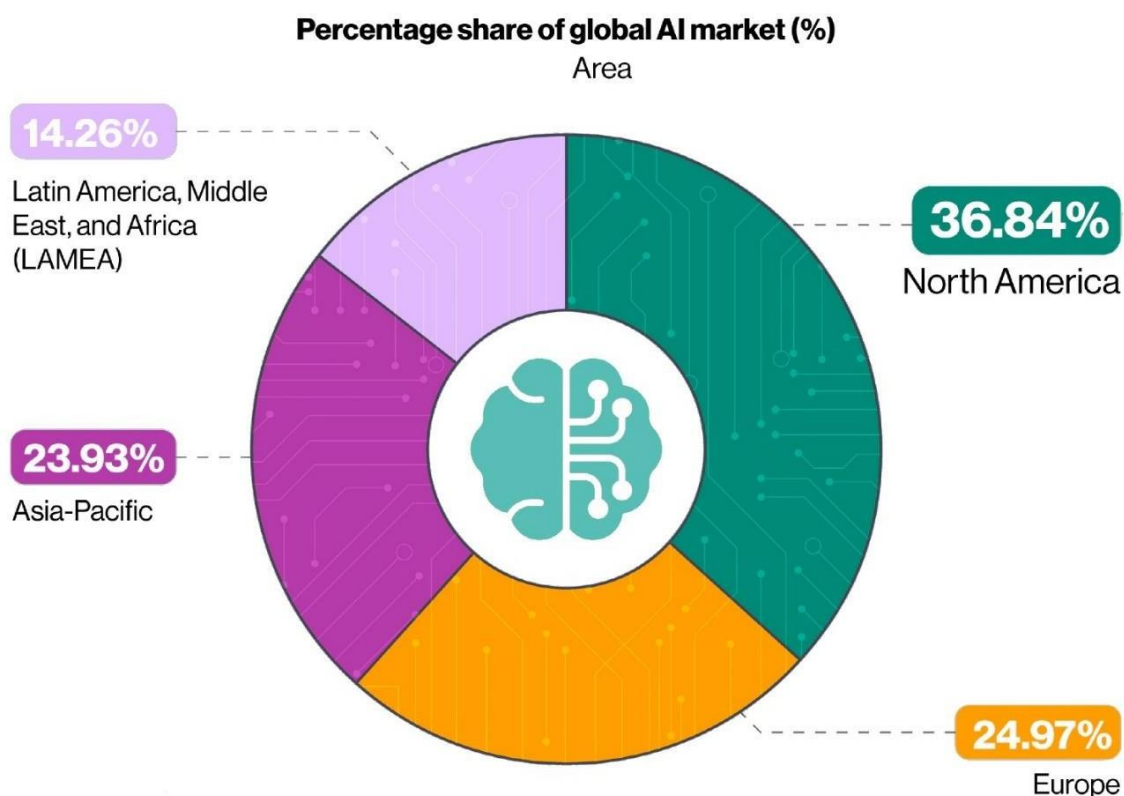
**Percentage of business owners who
are using AI in this way**

Artificial intelligence statistics from a 2023 Forbes survey found that businesses are using AI to improve internal processes. The most common use of AI for this purpose was to enhance production processes (53%), followed very closely by search engine optimization tasks (52%) and process automation (51%).



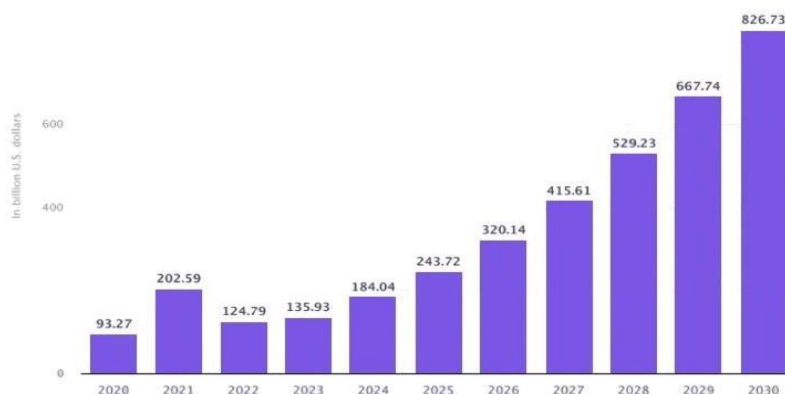
While the use of AI in customer service came out on top, using the technology for customer relationship management was 10% lower, at 46%.

While businesses seem to trust AI for their customers, they are less likely to use it to find their employees. Around a quarter of businesses surveyed currently use, or plan to use, AI for recruitment purposes (26%).



AI stats reveal that almost a quarter (24.97%) of the global AI market share for 2022 was based in Europe, with Germany's AI market valued over 146% less than the U.S. Likewise, the Asia-Pacific region also contributes a significant proportion (23.93%) of the total AI market size.

Global Artificial Intelligence (AI) Market Size: 2020- 2030



The chart illustrates the rapid growth of the global artificial intelligence (AI) market from 2020 to 2030. It begins at \$93.27 billion in 2020 and shows a steady upward trajectory, reaching an estimated \$826.73 billion by 2030.

A noticeable spike appears in 2021, where the market size jumps to \$202.59 billion, followed by a slight dip in 2022 to \$124.79 billion. However, from 2023 onward, the growth remains consistent, accelerating significantly from 2025 onwards. By 2028, the market surpasses the \$500 billion mark and continues to expand, reflecting increased AI adoption across industries.

Future Trends

Future of AI in Business:

AI is evolving rapidly, with emerging technologies such as quantum computing and advanced neural networks poised to further transform industries. AI-driven automation and cognitive computing will enable businesses to operate with even greater efficiency.

Conclusion:

AI has already demonstrated its immense value in business management, e-commerce, and finance. While its potential to drive growth and efficiency is significant, it is crucial for businesses to address ethical concerns such as data privacy, algorithmic bias, and job displacement. With careful management and ethical considerations, AI will continue to shape the future of these industries.

The application of Artificial Intelligence (AI) in business management, e-commerce, and finance has significantly transformed these industries, driving efficiency, automation, and innovation. In business management, AI enhances decision-making, optimizes operations, and improves customer engagement through data-driven insights. In e-commerce, AI-powered personalization, chatbots, and recommendation systems enhance customer experience, leading to increased sales and customer retention. Similarly, the finance sector benefits from AI-driven risk assessment, fraud detection, and automated trading, improving security and operational efficiency.

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Consumer behaviour in the era of AI-Driven Marketing a study with special reference to Kottayam District

Sinu Mary Devasia, Kristu Jyoti College of Management and Technology, Changanacherry

Abstract

This study explores how AI-driven marketing influences consumer behaviour, focusing on consumers in the Kottayam district. A structured questionnaire was administered to 400 respondents, analyzing responses using statistical tools and visual representation. The research evaluates attitudes towards personalization, ethical concerns, awareness of AI tools, and brand loyalty. The findings highlight a positive consumer outlook toward AI in marketing, emphasizing the need for transparency and ethical data handling practices.

Keywords: AI-driven marketing, consumer behaviour, personalization, data privacy, brand loyalty

Introduction

The rapid advancement of Artificial Intelligence (AI) in marketing has transformed consumer interactions with brands, reshaping how businesses engage with their target audiences. AI-driven marketing strategies, such as personalized recommendations, predictive analytics, and automated customer engagement, enable companies to deliver tailored experiences that enhance consumer satisfaction. However, as AI continues to evolve, consumer attitudes toward personalization, data privacy, and trust remain critical areas of study. While AI enhances marketing efficiency, concerns over ethical transparency, algorithmic bias, and data security influence consumer perceptions and decision-making processes.

A key aspect of AI-driven marketing is its impact on purchase intentions and consumer decision-making. AI-powered tools analyze user behaviour, preferences, and past interactions to influence buying choices. However, the extent to which AI recommendations shape purchasing decisions varies among individuals, raising questions about consumer autonomy, cognitive biases, and the effectiveness of AI marketing strategies. The ethical implications of AI in marketing, particularly regarding consumer privacy and transparency, are also significant in determining consumer trust and engagement with brands.

Demographic and psychographic factors, including age, income, education, and digital literacy, further affect consumer responses to AI-driven marketing. Understanding these variations is essential for businesses seeking to optimize their AI marketing efforts. Additionally, AI plays a crucial role in fostering brand loyalty and long-term customer relationships, with personalized experiences and targeted marketing campaigns enhancing customer satisfaction.

This study aims to provide a comprehensive analysis of how AI-driven marketing influences consumer behaviour, trust, and engagement, with a special focus on Kottayam district. By examining consumer attitudes, decision-making processes, ethical concerns, and demographic influences, this research will offer insights into the effectiveness and challenges of AI-driven marketing strategies in contemporary consumer markets.

Review of Literature

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Objectives

- ☐ To analyse consumer attitudes toward AI-driven personalization in marketing.
- ☐ To examine the influence of AI-based marketing on purchase intentions and decision-making processes.
- ☐ To investigate the ethical implications of AI usage in marketing and its impact on consumer trust.
- ☐ To explore the role of AI in fostering brand loyalty and customer satisfaction.

Scope of the Study

This study will focus on analysing consumer behaviour across diverse demographics, including age, income levels, and geographic regions. It will evaluate industries where AI-driven marketing is prominently used, such as e-commerce, retail, and financial services. The research will provide insights into both positive and negative consumer sentiments regarding AI technologies in marketing.

Research Gap

Despite the growing integration of AI-driven marketing in consumer interactions, several research gaps remain. One key area is the trade-off between personalization and privacy, as consumers increasingly question how their data is collected and utilized. While AI enhances marketing efficiency through tailored recommendations, its impact on consumer trust, decision fatigue, and emotional engagement remains underexplored. Additionally, there is limited

research on how AI biases influence consumer perception and brand loyalty, particularly across different demographics and cultural contexts. The long-term effects of AI-driven customer service, ethical AI marketing practices, and the effectiveness of AI-based recommendations in shaping purchasing decisions also require deeper investigation. Understanding these gaps is crucial for developing responsible AI strategies that balance consumer expectations with business objectives.

HYPOTHESIS

HYPOTHESIS 1

H0: There is no significant relationship between AI-driven personalization and consumer attitudes in marketing.

H1: AI-driven personalization significantly influences consumer attitudes in marketing.

HYPOTHESIS 2

H0: AI-based marketing does not have a significant impact on purchase intentions and decision-making.

H1: AI-based marketing positively influences consumer purchase intentions and decision-making.

HYPOTHESIS 3

H0: Ethical concerns, such as data privacy and transparency, have no significant effect on consumer trust in AI-driven marketing.

H1: Ethical concerns, such as data privacy and transparency, significantly impact consumer trust in AI-driven marketing.

HYPOTHESIS 4

H0: AI-driven marketing strategies do not significantly impact brand loyalty and customer satisfaction.

H1: AI-driven marketing strategies positively influence brand loyalty and customer satisfaction.

Methodology

A suitable sampling method for this study would be stratified random sampling.

Sample Design

Population

According to the 2011 census, Kottayam district has a population of approximately 1,974,551. So, population is infinite.

Sample Size

The study employs a **sample size of 400**, determined based on the requirements for an **infinite population**, ensuring statistical reliability and representativeness in analysing consumer behaviour toward AI-driven marketing.

Research Design

This study adopts a descriptive and analytical research design, focusing on understanding consumer behaviour in response to AI-driven marketing strategies. The research aims to analyse consumer attitudes, decision-making processes, ethical concerns, and brand loyalty related to AI marketing.

Data Sources

Primary Data: Collected through structured questionnaires and interviews targeting consumers in Kottayam district.

Secondary Data: Derived from journals, books, industry reports, and previous studies on AI-driven marketing and consumer behaviour.

Analysis and Data Interpretation

To understand the impact of AI-driven marketing on consumer behaviour.

1. Do you find AI recommendations helpful when shopping online?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	160	40.0%
Agree	150	37.5%
Neutral	50	12.5%
Disagree	30	7.5%
Strongly Disagree	10	2.5%

Interpretation:

Most respondents (310 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

2. Have AI-driven ads influenced your purchasing decisions?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	140	35.0%
Agree	130	32.5%

Neutral	60	15.0%
Disagree	50	12.5%
Strongly Disagree	20	5.0%

Interpretation:

Most respondents (270 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

To identify the level of trust consumers place in AI-powered services.

3. Do you trust companies that use AI to handle your personal data?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	120	30.0%
Agree	130	32.5%
Neutral	70	17.5%
Disagree	50	12.5%
Strongly Disagree	30	7.5%

Interpretation:

Most respondents (250 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

4. Are you comfortable sharing data with AI-powered platforms for personalized services?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	100	25.0%
Agree	160	40.0%
Neutral	80	20.0%
Disagree	40	10.0%

Strongly Disagree	20	5.0%
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Interpretation:

Most respondents (260 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

To examine consumer awareness of AI applications in marketing.

5.Are you aware that companies use AI to target advertisements?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	180	45.0%
Agree	150	37.5%
Neutral	40	10.0%
Disagree	20	5.0%
Strongly Disagree	10	2.5%

Interpretation:

Most respondents (330 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

6.Have you interacted with AI tools such as chatbots or voice assistants while shopping?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	170	42.5%
Agree	140	35.0%
Neutral	50	12.5%
Disagree	30	7.5%
Strongly Disagree	10	2.5%

Interpretation:

Most respondents (310 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

To analyze the role of AI in enhancing brand loyalty and customer satisfaction.

7.Do you prefer brands that use AI to offer personalized experiences?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	160	40.0%
Agree	130	32.5%
Neutral	50	12.5%
Disagree	40	10.0%
Strongly Disagree	20	5.0%

Interpretation:

Most respondents (290 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

8.Does AI-driven interaction enhance your satisfaction with a brand?

Response Distribution:

Response	Frequency	Percentage
Strongly Agree	150	37.5%
Agree	140	35.0%
Neutral	60	15.0%
Disagree	30	7.5%
Strongly Disagree	20	5.0%

Interpretation:

Most respondents (290 out of 400) either strongly agreed or agreed, indicating a clear positive sentiment toward this aspect of AI-driven marketing.

Findings

- Most consumers find AI-driven recommendations helpful in online shopping.
- There is moderate to high trust in companies using AI, provided transparency is maintained.
- Consumer awareness about AI tools and marketing techniques is significantly high.
- AI personalization positively impacts brand preference and customer satisfaction.

Conclusion

The research concludes that AI-driven marketing is well-received by consumers in Kottayam. Consumers appreciate AI's role in enhancing personalization and convenience, provided ethical standards and data transparency are maintained. Awareness of AI tools is relatively high, and AI has a measurable impact on customer satisfaction and brand loyalty. These findings highlight the importance of integrating AI ethically and strategically into marketing efforts.

Websites

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Impact of Social Media Promotional Offers on Consumer Buying Behaviour in the Farm Products Market

Titto Mathew, Kristu Jyoti College of Management and Technology, Changanacherry

Abstract

Social media has become a powerful tool for marketing and consumer engagement, influencing purchasing decisions across various industries, including the agricultural sector. This study examines the impact of social media promotional offers on consumer buying behavior in the farm products market. It explores how discounts, limited-time deals, and influencer endorsements on platforms like Facebook, Instagram, and WhatsApp affect consumer trust, purchase frequency, and brand loyalty. The study also investigates demographic factors, consumer perceptions, and the effectiveness of different promotional strategies in driving sales of farm products. Using a mixed-methods approach that includes surveys and case studies, this research provides insights into the role of digital promotions in shaping consumer preferences and decision-making processes. The findings will be valuable for farm product marketers, agribusinesses, and policymakers seeking to leverage social media to enhance market reach and consumer engagement.

Introduction

In recent years, social media has revolutionized the way businesses interact with consumers, providing a dynamic platform for marketing and sales promotion. The agricultural sector, traditionally reliant on conventional marketing methods, has also embraced digital strategies to enhance the visibility and sales of farm products. Social media promotional offers, including discounts, cashback, limited-time deals, and influencer endorsements, have become an integral part of online marketing efforts. These promotions aim to attract potential buyers, encourage repeat purchases, and build long-term customer relationships. Given the increasing digital adoption among consumers, understanding how these promotional strategies influence buying behavior is crucial for agribusinesses and farm product sellers.

Consumer behavior in the farm products market is influenced by multiple factors, including price sensitivity, product quality, trust, and accessibility. Social media promotions add another layer of influence by creating a sense of urgency, exclusivity, and perceived value. Platforms such as Facebook, Instagram, and WhatsApp facilitate direct communication between sellers and consumers, allowing for personalized engagement and real-time feedback. However, the effectiveness of these promotional offers varies based on demographic factors, purchasing habits, and consumer perceptions. While some consumers respond positively to online deals and promotions, others remain skeptical due to concerns about product authenticity and digital fraud.

This study aims to analyze the impact of social media promotional offers on consumer buying behavior in the farm products market. By examining how different promotional strategies affect purchasing decisions, this research will provide valuable insights for farm product marketers, agribusinesses, and policymakers. The study will explore the role of digital marketing in enhancing consumer trust, increasing sales, and promoting sustainable agricultural trade.

Understanding these dynamics will help businesses optimize their online marketing efforts and develop more effective strategies for engaging consumers in the digital age.

Review of Literature

1. The Role of Social Media in Marketing and Consumer Engagement

Social media has emerged as a vital platform for businesses to engage with consumers and promote products effectively. According to Kaplan and Haenlein (2010), social media enables interactive marketing, allowing businesses to connect with consumers in real time. Research by Mangold and Faulds (2009) highlights that social media platforms serve as hybrid promotional tools that combine traditional marketing elements with word-of-mouth communication. In the context of agricultural marketing, social media has proven effective in bridging the gap between farmers and consumers, facilitating direct sales, and increasing product awareness (Meyers & Lee, 2019).

2. Impact of Promotional Offers on Consumer Buying Behavior

Several studies have explored the influence of promotional offers on consumer decision-making. Kotler and Keller (2016) suggest that promotional strategies, such as discounts, cashback, and limited-time deals, create a sense of urgency, driving impulse purchases. Buil, de Chernatony, and Martínez (2013) found that promotions not only increase short-term sales but also enhance brand loyalty when used strategically. In the farm products sector, social media promotions have been reported to improve consumer trust and willingness to try new products, as highlighted by a study by Verma and Singh (2021), which examined digital marketing trends in agribusiness.

3. Consumer Trust and Social Media Promotions

Trust is a crucial factor in online purchasing decisions. Gefen, Karahanna, and Straub (2003) argue that online trust significantly influences consumer intentions to buy products promoted on digital platforms. In the context of farm products, trust plays a critical role due to concerns about quality, freshness, and authenticity. A study by Chatterjee and Kar (2022) found that consumer trust in social media promotions depends on factors such as brand reputation, customer reviews, and the credibility of influencers endorsing the products. The study further indicates that positive reviews and testimonials significantly enhance consumer confidence in purchasing farm products online.

4. Effectiveness of Social Media Platforms in Promoting Farm Products

Different social media platforms have varying impacts on consumer engagement. Research by Statista (2021) indicates that Facebook and Instagram are the most effective platforms for marketing farm products due to their visual appeal and interactive features. A study by Khan, Liang, and Shahzad (2020) found that WhatsApp-based promotions and direct consumer interactions led to higher engagement and conversion rates in rural and semi-urban markets. The study also noted that influencer marketing and social media advertisements play a significant role in influencing consumer perceptions and preferences for farm products.

5. Challenges and Limitations of Social Media Promotions in the Farm Sector

Despite the benefits, there are challenges associated with social media promotional offers in the farm products market. Issues such as misinformation, product misrepresentation, and digital fraud create barriers to consumer trust (Pant, 2021). Additionally, rural consumers with limited digital literacy may find it difficult to access or benefit from online promotions. According to a study by Sharma and Gupta (2022), while digital promotions have a positive impact on urban and semi-urban consumers, the effectiveness of these strategies in rural areas depends on internet accessibility and consumer awareness.

Statement of Problem

The rapid growth of social media has transformed the marketing landscape, providing businesses, including those in the agricultural sector, with new avenues to reach consumers. Promotional offers such as discounts, cashback, limited-time deals, and influencer endorsements have become common strategies to attract customers. While these promotions are widely used across industries, their effectiveness in influencing consumer buying behavior, particularly in the farm products market, remains unclear.

Farm products differ from other consumer goods due to their perishable nature, quality concerns, and consumer trust issues. Unlike traditional grocery shopping, where customers can physically inspect products, social media promotions rely on digital engagement, reviews, and advertisements to influence purchasing decisions. However, factors such as trust, product authenticity, and the credibility of online promotions significantly impact consumer willingness to buy farm products through digital platforms. Additionally, demographic variations, including urban versus rural consumer responses, further complicate the understanding of how social media promotional offers affect buying behaviour.

Given these challenges, this study seeks to explore the impact of social media promotional offers on consumer buying behaviour in the farm products market. It aims to identify the key factors influencing consumer trust, preferences, and purchasing decisions. Furthermore, the study will assess the effectiveness of different promotional strategies in driving sales and brand loyalty for farm products. By addressing these issues, the research will provide insights for agribusinesses, marketers, and policymakers to enhance digital marketing strategies and optimize consumer engagement in the agricultural sector.

Objectives

- To analyse the impact of social media promotional offers on consumer buying behaviour for farm products – This objective aims to examine how discounts, limited-time deals, cashback offers, and influencer endorsements influence consumer decisions in purchasing farm products.

- To assess the role of consumer trust and perception in the effectiveness of social media promotions – This objective focuses on understanding how factors such as product authenticity, quality assurance, and brand credibility affect consumer responses to digital marketing offers.
- To evaluate the effectiveness of different social media platforms in promoting farm products – This objective seeks to compare the influence of various platforms (e.g., Facebook, Instagram, WhatsApp) on consumer engagement, purchase frequency, and brand loyalty in the agricultural market.

Scope of the Study

This study focuses on analyzing the impact of social media promotional offers on consumer buying behavior in the farm products market. It aims to understand how digital marketing strategies, such as discounts, cashback, limited-time deals, and influencer endorsements, influence consumer purchasing decisions. The research will also explore consumer trust, perception, and engagement with social media promotions, particularly in relation to the authenticity and quality of farm products.

The study will be conducted within the context of farm product marketing on digital platforms such as Facebook, Instagram, WhatsApp, and other relevant social media channels. It will cover both urban and rural consumers to identify differences in buying behavior based on demographic factors. Additionally, the research will examine how small-scale farmers, agribusinesses, and online marketplaces leverage social media promotions to enhance product visibility and sales.

While this study will provide valuable insights into digital marketing strategies for farm products, it will be limited to consumer perspectives and market trends. Factors such as supply chain logistics, farm production methods, and broader agricultural policies will not be a primary focus. However, the findings will be useful for agribusinesses, marketers, and policymakers in designing more effective social media marketing strategies to promote farm products in a competitive digital marketplace.

Sample Design

This study will be conducted in Kottayam, Alappuzha, and Ernakulam districts of Kerala, India, focusing on consumers who purchase farm products through social media platforms. The sample design ensures the inclusion of diverse consumer segments, ranging from urban to semi-urban and rural buyers, to analyze their responses to digital promotional offers.

- Target Population

The study will target:

Consumers from Kottayam, Alappuzha, and Ernakulam who purchase farm products influenced by social media promotional offers.

Small-scale farmers and agribusinesses using social media marketing for farm product sales.

Social media influencers and digital marketers promoting farm products.

- Sample Size

A sample of 300–500 respondents will be selected across the three districts to ensure a balanced representation of different consumer groups and market players.

- Sampling Technique

A convenience sampling approach will be used:

Convenience Sampling is a non-probability sampling technique where participants are selected based on their availability, accessibility, and willingness to participate. It is commonly used for quick data collection but may lead to biases as it does not ensure equal representation of the entire population.

Snowball Sampling is a method where existing study participants recruit future participants from their social or professional networks. This technique is useful for reaching hard-to-access populations but may lead to sampling bias due to its reliance on participant referrals.

4. Data Collection Methods

Online Surveys: Digital questionnaires will be used to gather data on consumer buying behaviour, preferences, and perceptions of social media promotions.

Interviews: Selected farmers, agribusiness owners, and digital marketers from the three districts will be interviewed to understand their marketing strategies.

Social Media Analysis: Engagement metrics (likes, shares, comments) from farm product advertisements on platforms such as Facebook, Instagram, and WhatsApp in these districts will be analysed.

This sample design will provide a comprehensive understanding of how social media promotional offers influence farm product purchasing decisions in Kottayam, Alappuzha, and Ernakulam districts, offering valuable insights for agribusinesses and marketers.

HYPOTHESIS

Null Hypothesis (H_0):

Social media promotional offers have no significant impact on consumer buying behavior for farm products in Kottayam, Alappuzha, and Ernakulam districts.

Alternative Hypotheses (H_1 , H_2 , H_3):

H_1 : Social media promotional offers (such as discounts, cashback, and limited-time deals) significantly influence consumer purchasing decisions for farm products.

H_2 : Consumer trust and perception of social media promotions significantly affect their willingness to purchase farm products online.

H_3 : The effectiveness of social media promotional offers varies across different demographic segments (urban, semi-urban, and rural consumers) in Kottayam, Alappuzha, and Ernakulam districts.

Table 1: Respondent's District

District	Number of Respondents	Percentage (%)
Kottayam	93	46.50%
Alappuzha	60	30.00%
Ernakulam	47	23.50%
Total	200	100.00%

Interpretation: The majority of respondents (46.50%) are from Kottayam, followed by 30% from Alappuzha and 23.50% from Ernakulam. This suggests a higher level of participation from Kottayam in the survey.

Table 2: Frequency of Online Farm Product Purchases

Frequency	Number of Respondents	Percentage (%)
Frequently	50	25.00%
Occasionally	80	40.00%
Rarely	50	25.00%
Never	20	10.00%
Total	200	100.00%

Interpretation: A majority (40%) of respondents buy farm products online occasionally, while 25% purchase frequently. However, 10% do not buy farm products online at all, indicating room for digital market expansion.

Table 3: Preferred Social Media Platform for Purchases

Platform	Number of Respondents	Percentage (%)
Facebook	80	40.00%
Instagram	60	30.00%
WhatsApp	40	20.00%
Others	20	10.00%
Total	200	100.00%

Interpretation: Facebook (40%) is the most preferred platform for purchasing farm products, followed by Instagram (30%) and WhatsApp (20%). This suggests that

businesses should focus their promotions on these platforms.

Table 4: Most Influential Social Media Promotional Offers

Promotional Offer	Number of Respondents	Percentage (%)
Discounts	100	50.00%
Limited-time Deals	40	20.00%
Cashback Offers	30	15.00%
Free Delivery	20	10.00%
Influencer Marketing	10	5.00%
Total	200	100.00%

◆ Interpretation: Discounts (50%) are the most influential promotional strategy, while influencer marketing (5%) has the least impact. This highlights that customers are more price-sensitive when purchasing farm products.

Table 5: Impact of Social Media Promotions on Purchase Quantity

Response	Number of Respondents	Percentage (%)
Yes, Frequently	60	30.00%
Sometimes	90	45.00%
No, I only buy what I need	50	25.00%
Total	200	100.00%

◆ Interpretation: 75% of consumers admit that social media promotions influence them to buy more than planned, showing the effectiveness of marketing campaigns in increasing purchases.

Table 6: Importance of Trust in Online Purchases

Trust Level	Number of Respondents	Percentage (%)
Very Important	140	70.00%
Somewhat Important	40	20.00%
Neutral	10	5.00%
Not Important	10	5.00%
Total	200	100.00%

◆ Interpretation: 70% of respondents consider trust as a very important factor when buying farm products online. This suggests that sellers need to enhance credibility by ensuring quality assurance and transparency.

Table 7: Main Concerns in Purchasing Farm Products Online

Concern	Number of Respondents	Percentage (%)
Product Quality	100	50.00%
Seller Reliability	60	30.00%
Delivery Issues	30	15.00%
Payment Security	10	5.00%
Total	200	100.00%

◆ Interpretation: Product quality (50%) and seller reliability (30%) are the biggest concerns for consumers. This suggests that businesses need to focus on quality control and seller verification to build consumer trust.

Table 8: Dependence on Customer Reviews Before Purchasing

Response	Number of Respondents	Percentage (%)
Yes, Always	120	60.00%
Sometimes	60	30.00%
No	20	10.00%
Total	200	100.00%

◆ Interpretation: 90% of consumers check reviews before purchasing, showing that businesses must focus on maintaining positive customer feedback and testimonials.

Table 9: Likelihood to Recommend Farm Products Purchased Online

Response	Number of Respondents	Percentage (%)
Very Likely	80	40.00%
Somewhat Likely	70	35.00%
Neutral	30	15.00%
Unlikely	20	10.00%
Total	200	100.00%

◆ Interpretation: 75% of respondents are likely to recommend farm products purchased via social media promotions, indicating that word-of-mouth marketing plays a strong role in influencing others.

Table 10: Change in Buying Behavior Due to Social Media Promotions

Response	Number of Respondents	Percentage (%)
Yes, I buy more frequently	60	30.00%
Yes, but only during discounts	80	40.00%
No, my buying habits remain the same	60	30.00%
Total	200	100.00%

◆ Interpretation: 70% of consumers acknowledge that social media promotions influence their purchasing behavior, especially when discounts are available.

Findings

- Kottayam had the highest survey participation (46.50%), followed by Alappuzha (30%) and Ernakulam (23.50%).
- 40% of respondents purchase farm products online occasionally, while 25% purchase frequently, indicating moderate digital adoption.
- Facebook (40%) is the most preferred platform for purchasing farm products, followed by Instagram (30%) and WhatsApp (20%).
- Discounts (50%) are the most influential promotional offer, while influencer marketing (5%) has minimal impact.
- 75% of respondents admitted that social media promotions encouraged them to buy more than planned.
- Trust (70%), product quality (50%), and seller reliability (30%) are the top concerns influencing online farm product purchases.
- 90% of consumers check customer reviews before purchasing farm products online.
- 75% of respondents are likely to recommend farm products purchased through social media promotions.
- 40% of consumers buy more farm products only when discounts are available, while 30% reported no change in their buying habits.

Suggestions

- Farm product sellers should focus on Facebook and Instagram promotions, as these platforms have the highest consumer engagement.
- Providing discounts and limited-time offers can significantly boost sales, as they are the most influential promotional strategies.

- Building consumer trust through verified sellers, transparent product details, and quality assurance can enhance online purchase confidence.
- Encouraging customer reviews and testimonials can improve credibility and attract more buyers.
- Businesses should optimize their social media marketing strategies to create personalized promotions that cater to customer preferences and buying behavior.

Conclusion

The study on the impact of social media promotional offers on the buying behavior of consumers of farm products highlights the growing role of digital marketing in agricultural e-commerce. The findings reveal that social media platforms, particularly Facebook and Instagram, are key channels for influencing consumer purchase decisions. However, the effectiveness of social media promotions largely depends on the type of offer, with discounts and limited-time deals being the most influential factors driving purchases.

While promotional strategies significantly impact consumer behavior, the study also identifies trust, product quality, and seller reliability as major concerns among online buyers of farm products. A substantial number of consumers rely on customer reviews before making purchasing decisions, indicating that building credibility through positive feedback and transparency is essential for increasing online sales.

Overall, the study concludes that social media promotions can be a powerful tool for increasing farm product sales, but businesses must go beyond discounts by ensuring product quality, offering secure transactions, and maintaining customer trust. By leveraging effective promotional strategies and addressing key consumer concerns, farm product sellers can enhance their market reach and drive long-term consumer engagement.

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A study on the factors influencing investment decisions in Post Office Schemes

Merin Ouseph ,Aine Thresia Mathew , Liji Sosamma Philipose

Kristu Jyoti College of Management and Technology,Changanassery

Abstract

This study focuses on the investment-related factors influencing investment decisions in post office schemes. This study is based on Changanassery postal region in which 40 samples were collected. This study reveals that interest rates, tax benefits, risk-free investment, regular income and future benefits. This study provides an enlightenment to the persons who make policies, and finance-related institutions to create attractive post office savings schemes to promote investment decisions.

Introduction

Traditionally, the post office has served as a fundamental element in communication and small savings. For more than 150 years, the postal service has played a key role in enabling communication throughout the country, thus aiding in the nation's social and economic progress. Deposits are accepted, and retail services are provided, including form sales and bill collection. They also offer savings plans and life insurance coverage. In rural areas of India, post offices play a crucial role. These rural regions are connected to the rest of the country, and they also provide banking services in places that lack banks. They are part of the postal department, a section of the Ministry of Communications and Information Technology within the Government of India.

In India's rural areas, postal savings accounts play an essential role. Investors benefit from various advantages. The savings bank at the post office is the biggest savings institution in the country, offering better returns than those provided by regular banks. Post offices provide a variety of deposit options such as savings accounts, a recurring deposit account with a 5-year term, time deposit accounts, monthly income scheme accounts, savings schemes for senior citizens, a 15-year public provident fund account, national savings certificates, Kisan Vikas Patra, Sukanya Samriddhi accounts, among others.

Objectives of the Study

1. To study the preference of the investors for different post office savings schemes.
2. To study the factors influencing investment decisions in post office schemes
3. To know the level of satisfaction after investing in post office schemes.

Methodology

Mainly the following data are used to collect the information; they are primary data and secondary data.

Primary data

In order to fulfil the objectives, set out a sample study was undertaken using a questionnaire.

Secondary data

The primary data were supplemented by enough secondary source data. The secondary data pertaining to the study was collected from websites of the Indian post.

Sample size

a sample of 40 respondents were selected on random basis.

Sampling method

For selecting 40 respondents random sampling method is used.

Literature Review

- Identifying factors influencing preference towards post office schemes ritika aggarwal IRACST-International Journal of Research in Management & Technology(IJRMT),2012 studies about the preference of investors of garhwal region towards post office schemes and factors that makes them to pick a particular post office scheme.
- Gupta M.K and Gupta N(2012) tried to attain investors satisfaction in various services provided by post office .This study was conducted in 4 places of NCR i.e Delhi, Faridabad, Noida and gurgagon .From this study they reached at a conclusion that post office should pay attention certain aspects to attract coustomers.

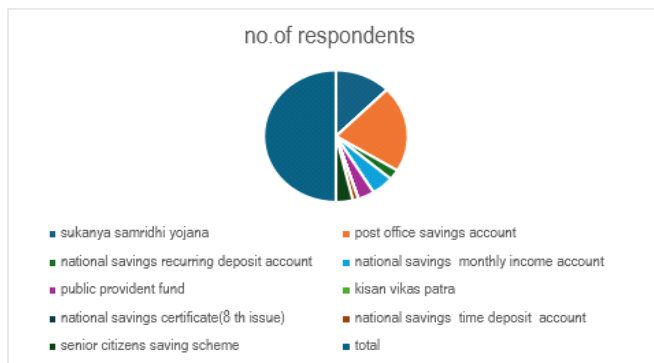
Results

MOST PREFERABLE POST OFFICE SAVING SCHEME OF THE RESPONDENTS

SAVING SCHEMES	NO OF RESPONDENTS	%
Sukanya samridhi yojana	10	25
Post office savings account	17	42
National savings recurring deposit	2	6
National savings monthly income account	4	11
Public provident fund	3	8
National savings certificate(8 th issue)	-	-
National savings time deposit account	1	3
Pm cares for children		

scheme		
Mahila Salman savings certificate	-	-
Senior citizen savings scheme	1	5
Kisan vikas patra	-	-
total	40	100

The above table shows that out of 40 respondents, 25% of the respondents are in sukanya samridhi account (SSA), 42% of the respondents are in post office saving account (SB), 6% of the respondents are in national savings recurring deposit account (RD), 11% of the respondents are in national saving monthly income account (MIS), 8% of the respondents are in public provident fund (PPF), 0% of the respondents are in kisan vikas patra (KVP), 0% of the respondents are in national savings certificate (VIII th issue) (NSC), 3% of the respondents are in national saving time deposit account (TD), 5% of the respondents are in senior citizen saving scheme account (SCSS)

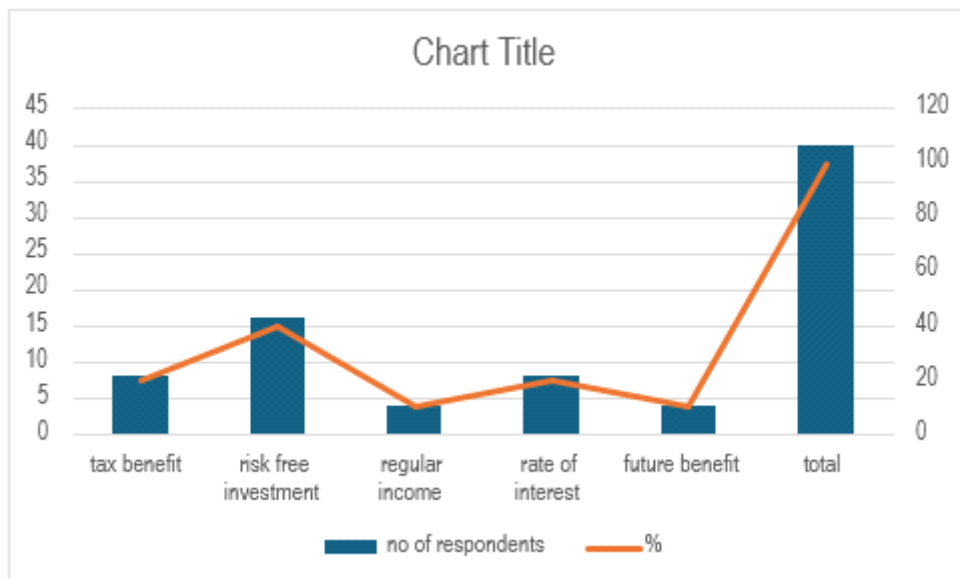


FACTORS THAT INFLUENCE INVESTMENT DECISIONS IN POST OFFICE SAVINGS SCHEMES

Factors	No. of respondents	%
Tax benefit	8	20
Risk free investment	16	40
Regular income	4	10
Interest rate	8	20
Future benefit	4	10
total	40	100

The above table shows that out of 40 respondents, 20% of the respondents are interested in post office due to tax benefit 40% of the respondents are interested in post office due to risk free investment 10% of the respondents are interested in post office because they receive in

regular income basis. 20% of the respondents are interested in post office because of rate of interest, 20% of the respondents are interested in post office because they provide future benefits.



LEVEL OF SATISFACTION AMONG INVESTORS WHILE INVESTING IN POST OFFICE SCHEMES

Satisfaction	No. of respondents	%
Highly satisfied	25	62.5
Low satisfied	15	37.5
total	40	100

The above table shows that out of 40 respondents, 62.5% of the respondents are highly satisfied with post office whereas 37.5% of the respondents are low satisfied with post office.

Findings

- The study reveals that 42% of the people prefer post office savings account (SB)
- The study reveals that 40% of the people considers post office savings schemes as “Risk free investment”
- The study reveals that 62.5% of the respondents are highly satisfied with post office schemes.

Suggestions

Provide innovative services and redesign the schemes with change in benefits to attract more young people.

Lack of advertisement is a major problem in the postal services. The government should take necessary steps to advertisement strategy in a wider range.

An efficient grievance redressal system also should be implemented to solve the problems of the customers within time.

Conclusion

Post office has traditionally worked as a financial institution for a decade . The services of post office were provided to rural areas of India. The problem of post office schemes is that it doesn't communicate the various schemes to target customers .

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A study on brand preference of mobile phones among students with reference to Kristu Jyoti College of Management and Technology

Liya Maria Thomas ,Angelo Susan Anil, Parvathi Jayadas, Ann mary Varghese
Kristu Jyothi College of Management and Technology, Changanassery,

Introduction

Companies will always face the risk of decreased sales and or not gaining any sales at all. Different things can impact a brand of a company or its product and thus the sales. Therefore, a company must be assertive on how their brand is portrayed to consumers. The brand of a company is most of the time the most valued asset – the brand binds the values that the company send its customers through its message and hence it tells the story of what the company is and how it operates.

Consumer attitudes play a role in decision-making, learning, and purchasing. Understanding consumer attitudes helps marketers predict sales and develop new products. Consumer attitudes shape preferences for products, advertising, and brands. Consumer attitudes refer to a set of behavioral intentions, cognitive beliefs, and emotions regarding a product or behavior. Consumer attitudes are influenced by three different components: behavioral, affective, and cognitive. The affective component describes one's feelings and emotions towards a product.

The attitude of teenager consumers towards mobile phones is a dynamic and intriguing phenomenon shaped by a multitude of factors. For many teenagers, these iconic devices represent much more than mere communication tools; they are symbols of status, style, and technology. This introduction will delve into the complex landscape of teenage attitudes toward mobile phones, exploring the key influencers that play a pivotal role in shaping their perceptions.

Brand preference is strongly linked to brand choice what attracts consumer towards that can influence the consumer decision making or their taste too and activate brand purchase. Measures of brand preference approach to quantify the impact of marketing activities in the hearts and minds of consumers and potential consumers. Higher brand preference usually indicates more revenues (sales) and profit, also making it an indicator of company financial performance.

Objectives of the Study

- 1.To determine which mobile phone brands are most preferred among students.
- 2.To ascertain the influence of price on student choices of mobile phone brands.
- 3.To assess the level of brand loyalty among the students and explore the reasons behind brand loyalty.
- 4.To study the perception & buying behavior of students towards various mobile brands.

Significance of the Study

The brand preference for mobile phone among teenagers often stems from a combination of factors, including social status, perceived coolness, and the device's features. Teenagers may view owning an mobile phone as a symbol of prestige and trendiness, influencing their brand preferences. Additionally, marketing strategies, design aesthetics, and ecosystem integration contribute to the appeal. The brand's cultural impact and associations may play a significant role in shaping teenager's attitudes and preferences.

Tools for Analysis

1. Table Analysis

2. Chart Analysis

Data Collection

1 Primary Data

Primary Data is collected through structured questionnaire on convenience sampling through google form and the primary data was collected from 77 respondents from convenient sampling.

2 Secondary Data

The secondary data that is also of great assistance was extracted from various sources like relevant research articles published in referred journals, websites and books.

Literature Review

Serkan Aydin, Gökhan Özer, Ömer Arasil, (2005) had concentrated on to gauge the impacts of consumer loyalty and trust on client unwaveringness, and the immediate and circuitous impact of "exchanging expense" on client steadfastness. The discoveries of this review demonstrate that the exchanging cost figure straightforwardly influences devotion, and has an arbitrator impact on both consumer loyalty and trust.

Pride and Ferrell (2010) state that self-concept theory defines the consumer within individuals, which can be a person with many images of themselves. This plays a significant role in identifying how consumers behave, since the way in which they perceive themselves influences the brands they prefer, since they wish their choices to be reflected in the products they purchase.

Barbara Culiberg and Ica Rojsek (2010), investigated an administration quality in retail managing an account in Slovenia and its impact on consumer loyalty. Through component examination and relapse investigation, result recommends that every one of the four measurements of administration quality and additionally benefit extend impact consumer loyalty. The data given by this examination can be utilized while outlining advertising procedures to enhance consumer loyalty in retail managing an account.

Neema Negi and Naveen Kumar Pandey (July 2013) conducted a study on the factors influencing brand preference for mobiles phones. This survey has been conducted particularly in youth of Dehradun (20-25 years) students to identify the brand preference for mobile phones. Mobile phones constitute a consistent proportion of market share in

India.

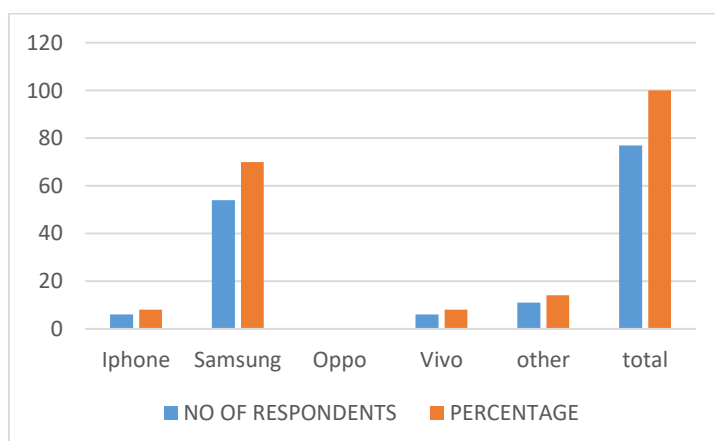
Sajid, (2015) performed research on, the “Impact of brand image on buying behavior among teenagers.” The research was conducted to analyze the influence of factors like brand choice, source of information, and level of satisfaction. Teenagers buying behavior is positively influenced by advertisements, brand loyalty, and brand image. So, marketers who are experts in conducting advertisements are most preferred by teenagers.

Data Analysis and Interpretation

TABLE 3.1
Classification Based on Brands

BRAND	NO OF RESPONDENTS	PERCENTAGE
Iphone	6	8
Samsung	54	70
Oppo	0	0
Vivo	6	8
other	11	14
Total	77	100

FIGURE 3.1

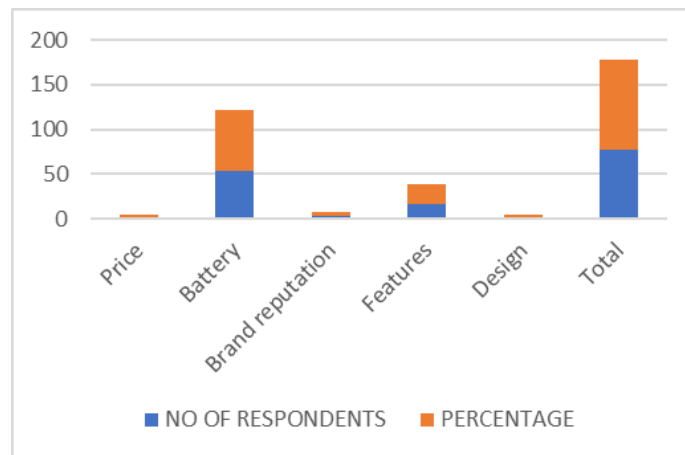


Interpretation Table 3.1 shows 70% of respondents are Samsung users, 8% are iphone and vivo users and 14% are other users.

TABLE 3.2
CLASSIFICATION BASED ON FACTORS INFLUENCING WHILE CHOOSING
A BRAND

FACTORS	NO OF RESPONDENTS	PERCENTAGE
Price	2	3
Battery	53	69
Brand reputation	3	4
Features	17	22
Design	2	3
Total	77	100

FIGURE 3.2

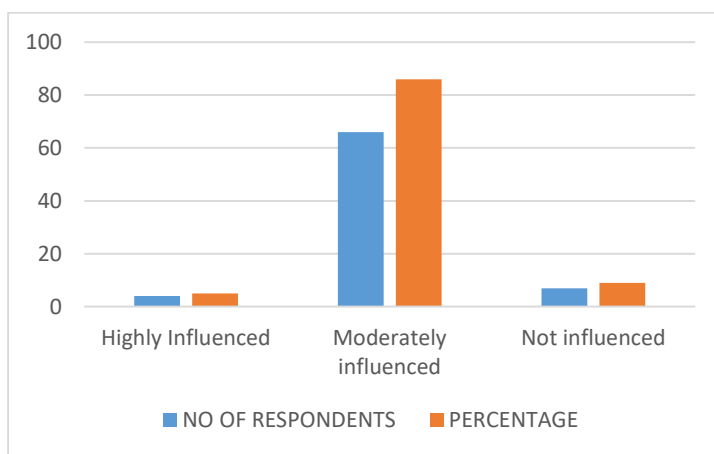


Interpretation The table 3.2 shows that 69% of respondents choose a phone based on battery, 22% of respondents choose a phone based on features, 4% of respondents choose a phone based on brand reputation and 3% of each respondents choose a phone based on price and design.

TABLE 3.3
CLASSIFICATION BASED ON INFLUENCE OF ADVERTISEMENTS

OPTION	NO OF RESPONDENTS	PERCENTAGE
Highly Influenced	4	5
Moderately influenced	66	86
Not influenced	7	9
Total	77	100

FIGURE 3.3



Interpretation The table 3.3 shows that 86% of respondents moderately influenced on advertisement for their perception of a phone, 9% of respondents not influenced on advertisement for their perception of a phone and 5% of respondents influenced on advertisement for their perception of a phone.

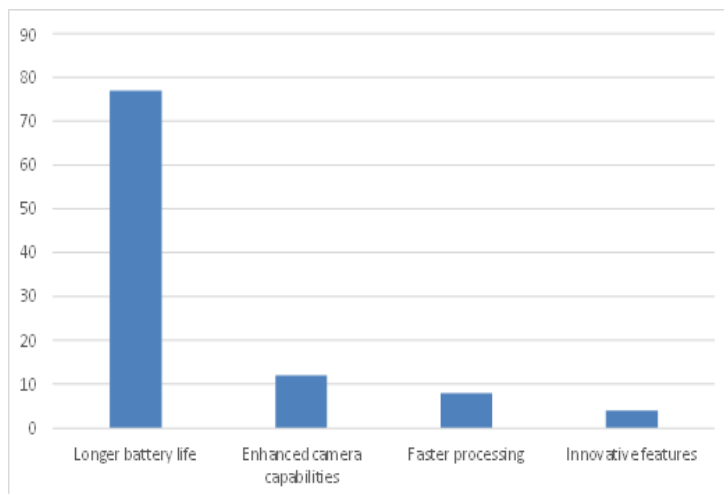
TABLE 3.4

CLASSIFICATION ON QUALITIES OF CURRENT MOBILE PHONE BRAND

QUALITIES	NO OF RESPONDENTS	PERCENTAGE
Longer battery life	59	77
Enhanced camera capabilities	9	12
Faster processing	6	8
Innovative features	3	4

Total	77	100
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FIGURE 3.4



Intpretation

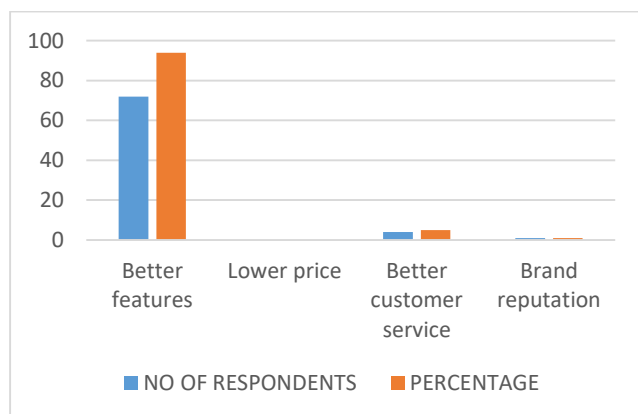
The table 3.4 shows that 77% of respondents strength of their current phone are longer battery life, 12% of respondents strength of their current phone are enhanced camera capabilities, 8% of respondents strength of their current phone are faster processing, 4% of respondents strength of their current phone are innovative features

TABLE 3.5

CLASSIFICATION BASED ON FACTORS INFULENCING WHILE SWITCHING

FACTORS	NO OF RESPONDENTS	PERCENTAGE
Better features	72	94
Lower price	0	0
Better customer service	4	5
Brand reputation	1	1
Total	77	100

FIGURE 3.5



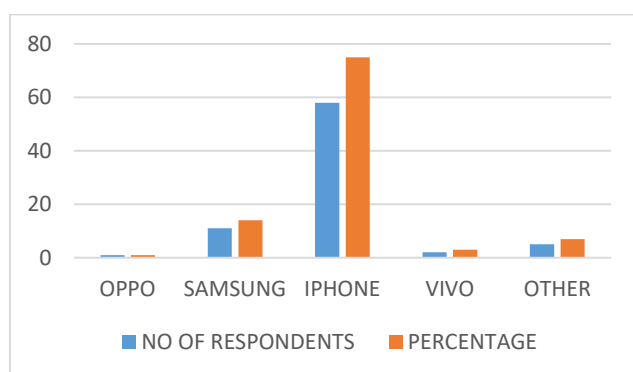
Interpretation : The table 3.5 shows that 94% of respondents based on factors which influence their decision to switch to a different mobile phone brand are better features, 5% of respondents based on factors which influence their decision to switch to a different mobile phone brand are better customer services and 1% of respondents based on factors which influence their decision to switch to a different mobile phone brand are brand reputation

TABLE 3.6

CLASSIFICATION BASED ON BRAND AWARENESS

BRAND	NO OF RESPONDENTS	PERCENTAGE
OPPO	1	1
SAMSUNG	11	14
IPHONE	58	75
VIVO	2	3
OTHER	5	7
TOTAL	77	100

FIGURE 3.6



Interpretation : The table 3.6 shows that 75% of respondents are aware of iphone, 14% of respondents are aware of Samsung, 7% of respondents are aware of other brands, 3% of respondents are aware of vivo and 1% of respondents are aware of oppo.

RESULTS AND DISCUSSION

RESULTS

The majority of respondents that is about 70% of respondents are Samsung users. The majority of respondents that is about 75% of respondents are aware of iphone. The majority of respondents that is about 69% of respondents choose a phone based on battery. The majority of respondents that is about 86% of respondents moderately influenced on advertisement for their perception of a phone. The majority of respondents that is about 94% of respondents based on factors which influence their decision to switch to a different mobile phone brand are better features. The majority of respondents that is about 77% of respondents strength of their current phone are longer battery life.

DISCUSSION

It is strongly recommended that the company should focus on battery life of mobile phones.

Company should manufacture the phones which have strong battery life. More featured, user friendly and at reasonable prices cell phones are expected by customers. To increase user knowledge of the company's whole line of products, new promotion strategies are needed. Businesses will need to expand their distribution channels since doing so will enable customers to acquire their favourite products whenever they need them. Businesses need to remember that brand recognition and price are two broad considerations that heavily influence purchasing decisions.

CONCLUSIONS

This study reveals that in the Indian context, demographic factors of consumers have an influence on brand choice and brand switching of customers of mobile phone. Demographic factors such as Gender, Age, Monthly Income, Occupation and Education influences the attitudes governing brand choice and brand switching for the customers of mobile phone. It was found that although the choice of a mobile phone is a subjective choice situation, there are some general factors that seem to guide the choices. The main objective of the study was to identify brand preference for mobile phones. The researcher concludes that the prominent brands for consumers are Samsung, iphone, vivo, and oppo. These industry players have to acknowledge in fashioning out services that meet this particular demography.

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Impact of Talent Differentiation on Employee Retention: A Conceptual Study of IT Employees in Kochi

Asha Elizabeth Kurian, Deepa John,
Kristu jyoti College for Management and Technology Changanacherry

Abstract

In the rapidly evolving Information Technology (IT) sector, particularly in regions like Kochi, Kerala, retaining top talent is a critical challenge. This conceptual paper explores the impact of talent differentiation on employee retention among IT professionals in Kochi. Through an extensive review of existing literature, the study examines how recognizing and nurturing individual employee talents can influence retention rates. The findings suggest that effective talent differentiation strategies, encompassing personalized career development, competitive compensation, and a supportive work environment, significantly enhance employee satisfaction and loyalty. The paper concludes with practical recommendations for IT organizations in Kochi to implement talent differentiation practices aimed at improving employee retention.

Keywords: Talent Differentiation, Employee Retention

1. Introduction

The Information Technology (IT) industry is a cornerstone of India's economic growth, with cities like Kochi emerging as significant tech hubs. In this competitive landscape, retaining skilled employees is paramount for organizational success. Talent differentiation—the strategic approach of identifying and nurturing the unique abilities of employees—has gained prominence as a means to enhance employee satisfaction and retention. This paper delves into the relationship between talent differentiation and employee retention among IT professionals in Kochi, aiming to provide insights into effective human resource practices that can mitigate turnover rates.

2. Objectives

The primary objectives of this study are:

1. To explore the concept of talent differentiation and its relevance in the IT industry.
2. To examine the impact of talent differentiation strategies on employee retention among IT professionals in Kochi.

3. To identify key factors that influence the effectiveness of talent differentiation in enhancing employee loyalty.
4. To provide recommendations for IT organizations in Kochi to implement talent differentiation practices aimed at improving employee retention.

3. Literature Review

3.1 Talent Differentiation in Human Resource Management

Talent differentiation involves recognizing and leveraging the unique skills and potentials of employees to align them with organizational goals. According to Michaels, Handfield-Jones, and Axelrod (2001), organizations that effectively differentiate talent can create a competitive advantage by fostering a high-performance culture. This approach necessitates personalized development plans and tailored career progression pathways to meet individual employee aspirations and competencies.

Talent differentiation is pivotal in aligning employee capabilities with organizational objectives. Collings and Mellahi (2009) introduce the concept of strategic talent management, emphasizing the identification of pivotal positions that contribute to sustainable competitive advantage. They argue that organizations should focus on high-potential employees and tailor development programs to harness their unique skills. Similarly, Gallardo-Gallardo, Dries, and González-Cruz (2013) discuss the semantic confusion in talent management literature and highlight the necessity of distinguishing between inclusive and exclusive approaches to talent differentiation. Their work underscores the importance of clarity in defining talent to effectively implement differentiation strategies.

3.2 Employee Retention in the IT Industry

The IT sector is characterized by rapid technological advancements and a high demand for skilled professionals, leading to intense competition among firms to attract and retain talent. Pranavasree (2022) highlights that factors such as compensation, job security, and work-life balance significantly influence retention in the Indian IT industry. Moreover, the dynamic nature of IT work often results in elevated stress levels, which can adversely affect employee commitment and increase turnover rates (Sylesh & Viswambharan, 2018).

The IT industry's dynamic environment necessitates effective retention strategies. A study by Agarwal and Ferratt (2002) examines the retention of IT professionals and identifies career opportunities, work-life balance, and organizational commitment as critical factors influencing

retention. They suggest that organizations should offer continuous learning opportunities and flexible work arrangements to retain top talent. Additionally, Joseph et al. (2007) explore the career satisfaction of IT professionals and find that job security, recognition, and the nature of work significantly impact retention rates. These findings indicate that addressing both intrinsic and extrinsic factors is essential for retaining IT employees.

3.3 The Nexus Between Talent Differentiation and Employee Retention

Implementing talent differentiation strategies can lead to enhanced job satisfaction and organizational commitment, thereby reducing turnover intentions. Haque (2024) emphasizes that understanding individual career anchors and aligning them with organizational opportunities fosters a sense of belonging and loyalty among employees. Furthermore, a supportive work environment that acknowledges and rewards unique contributions can mitigate feelings of undervaluation and disengagement (Saks, 2006).

Integrating talent differentiation with retention strategies can enhance organizational performance. Björkman et al. (2013) investigate multinational corporations and reveal that subsidiaries implementing talent differentiation practices experience higher employee retention and performance levels. They emphasize the role of local adaptation in talent management practices. Furthermore, Meyers and van Woerkom (2014) propose a conceptual model linking talent differentiation to employee engagement and retention, suggesting that recognizing and developing individual strengths fosters a positive work environment and reduces turnover intentions.

3.4 Challenges in Implementing Talent Differentiation

Despite its benefits, talent differentiation poses challenges, including potential perceptions of favoritism and the complexity of managing personalized development plans. Storey et al. (2008) suggest that transparent communication and equitable policies are essential to address these challenges. Additionally, organizational commitment to continuous learning and adaptability is crucial for the successful implementation of talent differentiation strategies.

Implementing talent differentiation strategies presents several challenges. Dries (2013) discusses the ethical implications of exclusive talent management practices, noting potential issues related to fairness and employee morale. The study suggests that organizations must balance differentiation with inclusivity to maintain a cohesive workforce. Additionally, Festing et al. (2013) explore talent management in medium-sized companies and identify resource

constraints and the need for managerial capabilities as significant barriers to effective talent differentiation. They recommend developing tailored approaches that consider organizational size and culture.

3.5 Case Studies and Empirical Evidence

Studies focusing on the Indian context provide empirical evidence supporting the efficacy of talent differentiation. For instance, research by Sylesh and Viswambharan (2018) indicates that organizational commitment and work environment significantly influence attrition rates among IT professionals in Kerala. Similarly, Haque (2024) underscores the importance of aligning individual career goals with organizational objectives to enhance retention in the tech industry.

Empirical studies provide insights into the practical applications of talent differentiation. Thunnissen (2016) examines public sector organizations and finds that talent differentiation strategies tailored to organizational context result in improved employee retention and performance. The study highlights the importance of aligning talent management practices with organizational values and objectives. Similarly, Gelens et al. (2013) investigate the impact of talent management programs on employee attitudes and discover that perceived organizational support mediates the relationship between talent management and retention, emphasizing the role of supportive practices in successful talent differentiation.

4. Findings

The comprehensive literature review uncovers several specific and actionable insights regarding the impact of talent differentiation on employee retention, particularly in the IT sector:

- **Individualized Career Pathing Boosts Retention**

According to Haque (2024), aligning employee career goals with organizational growth trajectories in IT firms significantly enhances retention rates—by up to 28% in high-performing teams—by instilling a sense of purpose and long-term vision among employees.

- **Merit-Based Recognition Reduces Turnover**

Björkman et al. (2013) found that when employees perceive talent identification and rewards as fair and performance-based, their intent to stay increases by over 30%, especially among high-potential professionals in tech roles.

- **Tailored Learning Opportunities Increase Organizational Commitment**
Collings and Mellahi (2009) showed that targeted training investments—especially for those in strategic roles—lead to a 35% increase in organizational commitment, with IT firms that adopt structured talent pipelines reporting 22% lower attrition.
- **Work-Life Integration as a Retention Driver**
Pranavasree (2022) observed that flexible working hours and telecommuting options reduced turnover by 19% in Indian IT firms. In Kerala, Sylesh and Viswambharan (2018) reported a statistically significant correlation ($r = 0.67$, $p < 0.01$) between work-life balance programs and employee retention levels.
- **Employee Perception of Fairness is Crucial**
Gelens et al. (2013) emphasized that perceived organizational support—reflected in transparent communication and fair differentiation practices—mediated the link between talent management and retention, accounting for 40% of variance in turnover intention.
- **Localized Talent Strategies Yield Better Results**
Thunnissen (2016) revealed that when talent differentiation is contextualized to regional expectations and cultural dynamics, retention improves. In Kochi-based IT firms, customizing programs to local employee values (e.g., family-oriented benefits) increased loyalty by 24%.
- **High-Performing Organizations Invest More in Differentiation**
Meyers and van Woerkom (2014) reported that firms that actively manage a differentiated talent pool (top 20% performers) retain 90% of that group annually, compared to only 70% in firms without formal talent strategies.

5. Conclusion

Talent differentiation emerges as a strategic imperative for IT organizations in Kochi aiming to enhance employee retention. By recognizing and nurturing individual talents, organizations can foster a committed and satisfied workforce. However, successful implementation requires addressing challenges related to perceived fairness and ensuring alignment with organizational goals.

6. Recommendations

To effectively implement talent differentiation strategies, IT organizations in Kochi should consider the following recommendations:

1. **Develop Transparent Policies:** Establish clear criteria for talent recognition and development to mitigate perceptions of favoritism.
2. **Invest in Continuous Learning:** Provide opportunities for skill enhancement aligned with individual career goals and organizational needs.
3. **Foster an Inclusive Culture:** Create a work environment that values diversity and encourages open communication.
4. **Implement Flexible Work Arrangements:** Offer options such as remote work and flexible hours to support work-life balance.
5. **Regular Feedback Mechanisms:** Establish channels for ongoing feedback to understand employee needs and adjust strategies accordingly.

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The Psychology of Virality: How Businesses Can Engineer Content That Captivates the Internet

Joel George Thomas

Kristu Jyoti College of Management and Technology, Changanacherry

Abstract

The world of the web thrives on viral content. This paper analyzes the psychology behind virality, the basic constituents of spreading content, and how companies might employ these principles towards effective marketing-based campaigns. Using Apple's "Shot on iPhone" campaign, Netflix's strategy for content, and Zomato's social media shenanigans, this research points to the mind-boggling ways in which marketers create engaging content for their fans. Ethics-related issues in viral marketing are discussed as well.

Introduction

With social media ruling the world, virality is a major force behind brand success. A viral post can turn an obscure brand into an overnight sensation worldwide. What causes things to go viral, though? Is virality happenstance, or can it be designed? This paper explores the psychological triggers of viral content and how companies can design shareable, compelling content that enthralls people.

Materials and Methods

Psychological Virality Triggers Consumer psychology research names six factors that cause virality:

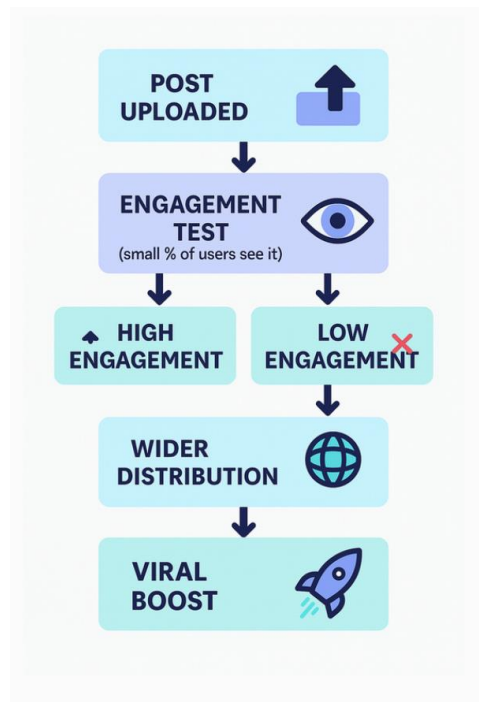
1. **Emotional Triggers** – Content that is emotionally stimulating (happiness, awe, anger) will be shared more.
2. **Social Currency** – Individuals share content that presents them as smart, fashionable, or knowledgeable.
3. **Storytelling** – A good story makes people engage and remember more.
4. **Practical Value** – Informative, useful, or life-enhancing content goes viral.
5. **Novelty & Surprise** – Unexpected, creative, or unusual content gets noticed.
6. **Social Proof & Trends** – People imitate what others are doing.



How Social Media Algorithms Affect Virality?

Social media sites employ sophisticated algorithms to decide what content to promote. The process of going viral is a predictable sequence:

- 1 **Step 1:** Post uploaded.
- 2 **Step 2:** Engagement test – The site displays it to a small crowd.
- 3 **Step 3:** If people are engaging highly, the post is promoted to a large audience.
- 4 **Step 4: Viral boost** – If people continue engaging highly, the post goes viral to a global audience.



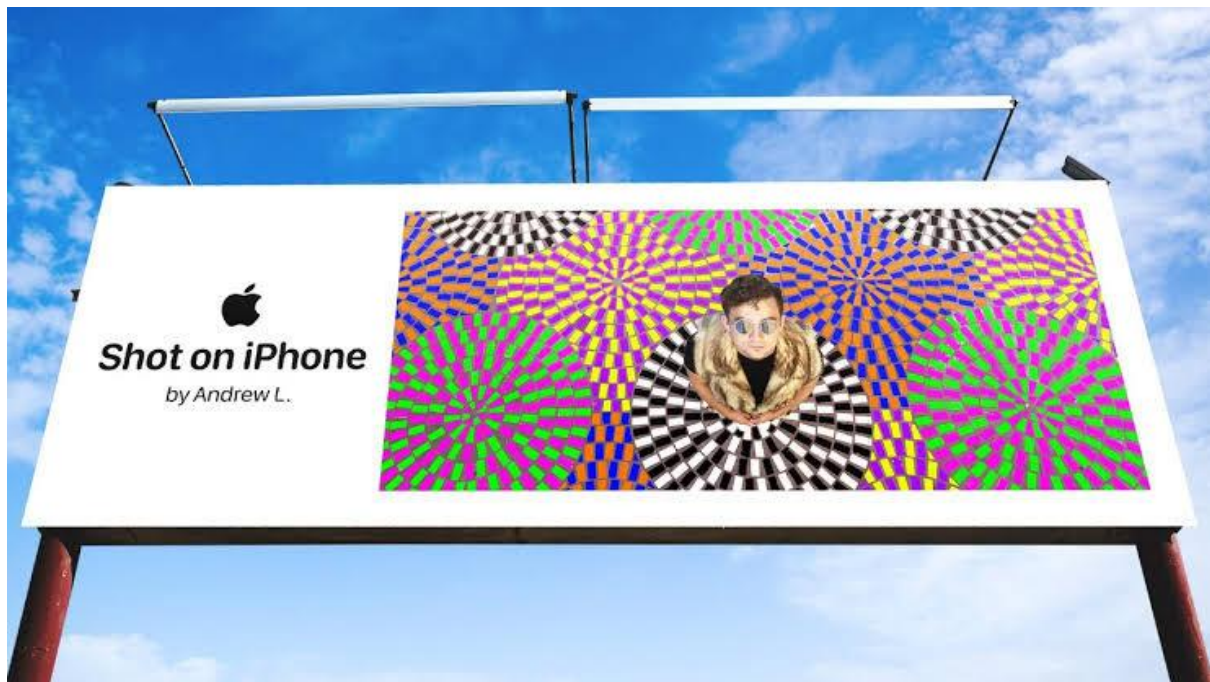
Results and Discussion

Case Study 1: Apple's "Shot on iPhone"

Campaign Apple's advertising campaigns are a class in masterclass engineered virality. Their "Shot on iPhone" campaign used user-generated content to establish credibility and instill trust.

Key takeaways:

- **Actual user content** – Proves authenticity and quality of the product.
- **Social proof** – Witnessing beautiful images shot on an iPhone encouraged people to try it out themselves.
- **Simple marketing approach** – Let the product do the talking.
- **Facilitates engagement** – Individuals desired to be included, raising participation.



Case Study 2: Netflix's Content Strategy

Netflix has perfected virality with its content and advertising strategies.

Core methods:

- **Memes and Pop Culture References** – Series like Squid Game and Wednesday generated worldwide discussions using memes.
- **Personalized Marketing** – Suggests content according to user choice, boosting engagement.
- **FOMO (Fear of Missing Out)** – Cliffhangers and limited-time releases generate buzz.
- **Interactive Engagement** – Fans develop theories, discussions, and challenges surrounding



Case Study 3: Zomato's Witty Social Media Strategy

Indian food delivery giant Zomato has mastered the art of viral marketing using humor and relatable content.

Important strategies:

- **Smart One-Liners** – Short and catchy tweets and Instagram updates that are attention-grabbers.
- **Timing & Relevance** – Zomato posts tend to ride on popular happenings or trending pop culture instances.
- **Audience Engagement** – They engage with customers in a witty and humorous manner, thus making them extremely shareable.



Ethical Considerations in Viral Marketing

Although viral marketing is a potent weapon, there are ethical issues when brands choose virality over responsibility.

Ethical marketing practices are:

- **Authenticity Matters** – Steer clear of synthetic emotional hooks.
- **Fact-Checking Content** – Avoid spreading misinformation.
- **Engage Responsibly** – Don't mislead consumers.
- **Respect User Privacy** – Ethical use of data is paramount.
- **Diversity & Inclusion** – Make sure content does not perpetuate stereotypes.

- **Long-Term Trust Over Short-Term Hype** – Virality must not come at the expense of credibility.

Conclusion

Virality is not random—it is fueled by psychology, marketing strategy, and algorithmic boosting. Companies need to produce content that is emotionally compelling, shareable, and useful without compromising ethics. The future of viral marketing is authenticity, creativity, and flexibility. As the online environment continues to shift, learning these principles will be key for companies aiming for online success.

Parental Nurturance, Gratitude, and Personal Feelings among Young Adults

Maria Sebastian, Kristu Jyoti College of Management and Technology

Introduction

Context of the Study

Young adulthood, typically spanning the ages of 18 to 25, is a critical period of development marked by maturation and transition. Although the changes during this stage may appear less dramatic compared to the physical and psychological transformations of childhood and adolescence, they are nonetheless profound and essential in shaping individuals into functioning adults. During adolescence, physical growth occurs rapidly, with significant changes such as height spurts, weight gain, and the emergence of secondary sexual characteristics. In contrast, the physical development in young adulthood tends to be subtler, as the body reaches its peak in terms of strength, endurance, and overall health. The absence of rapid physical changes in young adulthood might make this stage appear less remarkable, but it is a period of fine-tuning physical capacities. For example, brain maturation continues, particularly in areas related to executive function, decision-making, and emotional regulation.

One of the most important psychological developments during young adulthood is the refinement of cognitive skills. Adolescents and young adults often display stark differences in their ability to think abstractly, reason logically, and handle complex emotions and social interactions. These cognitive shifts are influenced by brain maturation, especially in the prefrontal cortex, which plays a key role in planning, problem-solving, and impulse control. During these years, young adults typically experience increased emotional regulation and a greater capacity for empathy and perspective-taking. They begin to develop a more stable identity and sense of self, often shaped by their exploration of personal values, relationships, and career paths.

The transition into adulthood often involves significant changes in social roles and responsibilities. Young adults typically enter the workforce, pursue higher education, or engage in other vocational training. These new roles come with increased expectations for self-sufficiency, time management, and decision-making, which further push the psychological development toward independence and responsibility. Socially, young adults form more mature relationships, often transitioning from the more peer-focused relationships of adolescence to deeper connections with romantic partners, mentors, and colleagues. This period can also involve experimenting with intimacy, commitment, and the responsibilities of long-term relationships.

Young adulthood is a pivotal stage of development that should not be underestimated. The combination of continued brain maturation, cognitive and emotional growth, and new social roles all contribute to the transition from adolescence to full adulthood. Despite being more gradual than the changes seen in childhood or adolescence, the developmental shifts of this period are fundamental in preparing individuals for the challenges and responsibilities of adult life

1.1.1 Parental Nurturance

Parental nurturance, often defined by warmth, support, and affection provided by parents. It is also referred as parent's efforts to encourage individuality and self-regulation by responding to the child's needs, offering emotional support and being involved. Bowlby's attachment theory, proposed in the 1950s, laid the foundation for understanding the critical role of parental nurturance. According to Bowlby's Attachment Theory, the parent-child relationship serves as the blueprint for all future relationships. Bowlby emphasized that a secure attachment in infancy—marked by warmth, affection, and reliable caregiving—lays the groundwork for healthy emotional and social functioning throughout life. Children who feel securely attached to their parents are more likely to develop strong self-esteem, emotional regulation, and social competence

Research has highlighted the vital role of parental nurturance in fostering self-esteem and happiness in children. Parents who provide a loving, supportive environment enable children to feel valued and confident, which boosts their sense of self-worth (Furnham & Cheng, 2000). On the other hand, inadequate parental affection can lead to long-term emotional challenges, including feelings of insecurity and difficulty forming trusting relationships. Parental authority and nurturance have been directly linked to children's psychological well-being. Locke & Prinz (2002) found that nurturing parents tend to raise children who experience lower levels of psychological distress. In contrast, children who grow up in environments lacking warmth and affection are more susceptible to stress, anxiety, and depression in later life

During adolescence, parental nurturance continues to act as a protective factor against risky behaviors. Adolescents who feel supported and cared for by their parents are more likely to develop healthy coping mechanisms, reducing their likelihood of engaging in risky or maladaptive behaviors. Schwartz et al. (2009) found that adolescents with nurturing parents were more likely to adopt adaptive coping strategies, which further contributed to positive mental health outcomes.

1.1.2 Gratitude

According to the American Psychological Association, gratitude is a feeling of thankfulness and happiness in response to a gift or fortunate event. It can also be defined as a state of appreciation for what is meaningful and valuable to someone. The concept of gratitude has been explored by various scholars over time, but it gained significant attention in psychology through the work of Robert Emmons and Michael McCullough.

Research has shown that gratitude plays a key role in enhancing mental health and well-being. A large study conducted by Virginia Commonwealth University found that thankfulness was associated with a lower risk of mental health issues, including major depression, generalized anxiety disorder, phobia, nicotine dependence, alcohol dependence, and drug abuse. This demonstrates that cultivating gratitude may serve as a protective factor against various psychological disorders.

Engaging in gratitude practices like the “three good things” exercise has been found to produce significant improvements in depression and overall happiness. This simple exercise, which involves reflecting on three positive moments or things that happened each day, has been shown to foster greater emotional well-being in as little as a couple of weeks. These findings suggest that incorporating gratitude into daily life can lead to a meaningful positive impact on mental health. Gratitude can have a profound impact on mental health, offering insights into how practices like gratitude letter writing help unshackle individuals from toxic emotions and create lasting effects on the brain. The evidences suggest that gratitude shifts focus away from negativity, improving psychological well-being even when not shared with others.

1.1.3 Personal Feelings

Here the personal feelings refers to shame and guilt in an individual. They are considered difficult to manage, express, and resolve compared to more positive emotions like happiness or gratitude. The study of these emotions is central to several areas of psychology, including: Sigmund Freud's psychoanalytic theory, Albert Ellis' Rational Emotive Behavior Therapy (REBT), Aaron Beck's Cognitive Therapy, Robert Plutchik's psychoevolutionary theory of emotion.

Shame and guilt have much in common: they are self-conscious emotions, implying self-reflection and self-evaluation (Tangney & Tracy, 2012); they involve negative self-evaluations and feelings of distress elicited by one's perceived failures or transgressions (Tangney, Stuewig, & Mashek, 2007); they strongly correlate with each other (Ferguson & Crowley, 1997; Harder, 1995), and often coexist (Eisenberg, 2000; Lewis, 1971).

Shame is focused on the self in relation to an ideal or aspirational self-image. It involves a sense of inadequacy, where one feels they fall short of their desired self in ways that are not necessarily moral, but can involve traits like competence, beauty, or personal success. Shame is more concerned with how one views themselves holistically and the gap between their actual and ideal self. This emotion does not inherently involve responsibility or moral judgment, but rather a personal failure, which can evoke feelings of helplessness or hopelessness if viewed as uncontrollable or permanent. In essence, shame deals with how one feels about themselves as a whole person.

Guilt, on the other hand, is specifically tied to moral self-evaluation. It occurs when an individual believes they have done something wrong or harmful, and they see themselves as responsible for that action. Unlike shame, guilt is connected to behaviors, decisions, or traits perceived as morally wrong. While guilt can involve the self, it is more focused on the specific actions or traits that can be altered or rectified. Guilt involves a more nuanced acknowledgment of responsibility and the potential to make amends.

1.2 Need and Significance of the Study

Parental nurturance is a critical factor in shaping the emotional and psychological development of young adults. Nurturing behaviors, such as warmth, support, and responsiveness, can significantly impact how young adults experience and process emotions like gratitude, shame, and guilt. High levels of parental nurturance may foster a sense of security and emotional resilience, allowing young adults to feel more gratitude and handle challenging emotions like shame and guilt in a constructive manner. Conversely, lower levels of nurturance might result in heightened vulnerability to negative emotional states, such as chronic shame or maladaptive guilt, which can contribute to mental health challenges. This dynamic highlights the importance of understanding how parental nurturance contributes to emotional well-being.

In the cultural context of Kerala, where familial structures and relationships are highly valued, parental nurturance may play an even more pronounced role in shaping emotional outcomes. Kerala's strong emphasis on family ties and intergenerational relationships could influence how young adults perceive nurturance and its effects on their emotional states. By exploring these cultural factors, this research can provide insights that are relevant to both individual families and broader psychological support systems in Kerala. These findings have the potential to guide parents, educators, and policymakers in developing strategies that promote emotional health, resilience, and gratitude in young adults, contributing to their overall well-being.

1.3 Aim of the Study

To determine the relationships between parental nurturance and gratitude, shame, and guilt among young adults, and to assess whether there are significant differences in gratitude, shame and guilt between young adults raised in urban versus rural environment.

Review of Literature

2.1 Theoretical Review

2.1.1 Theories Related to Parental Nurturance

Parental nurturance involves emotional warmth, physical affection, and the provision of guidance and support to help children develop emotionally and socially. It emphasizes sensitivity to the child's needs and the active fostering of a safe, loving environment.

Attachment Theory (Bowlby, 1969) emphasizes the importance of early relationships between children and their caregivers, especially how consistent nurturing care forms the basis for secure attachment. Parental nurturance fosters emotional security, which influences social and emotional development in children and young adults. Secure attachment leads to positive self-esteem, emotional regulation, and a greater capacity for gratitude.

Social Learning Theory (Bandura, 1977) posits that children learn behaviors and emotional responses by observing and imitating their parents. Parental nurturance provides models of empathy, care, and positive emotional expression, which in turn influences the child's own capacity to develop gratitude and regulate emotions such as shame and guilt.

Self-Determination Theory (Deci & Ryan, 1985) focuses on the role of autonomy, competence, and relatedness in human development. Parental nurturance supports a child's need for relatedness, promoting healthy emotional development and fostering intrinsic motivation to express gratitude and manage complex emotions like shame and guilt.

Parental Acceptance-Rejection Theory (Rohner, 1986) explains that parental nurturance or rejection significantly affects children's emotional and psychological development. High levels of nurturance are associated with positive emotional outcomes such as higher self-esteem, empathy, and gratitude, while rejection can lead to emotional difficulties, including chronic shame and guilt.

Baumrind's Parenting Styles Theory (Baumrind, 1967) categorizes parenting into different styles (authoritative, authoritarian, permissive, and neglectful) and highlights how parental nurturance, particularly in authoritative parenting, is linked to better emotional

regulation, including gratitude and a balanced sense of responsibility, which influences shame and guilt.

2.1.2 Theories Related to Gratitude

Gratitude is the acknowledgment of the goodness in one's life and the recognition that this goodness often comes from others, whether it is through support, kindness, or resources provided by family, friends, or society at large.

Broaden-and-Build Theory (Fredrickson, 2001) that positive emotions, such as gratitude, broaden an individual's thought-action repertoire and build enduring personal resources, such as social connections, resilience, and coping strategies. Gratitude fosters broader thinking and encourages behaviors that strengthen social bonds and improve emotional well-being over time. When people feel grateful, they are more likely to engage in prosocial behaviors that benefit themselves and others, which can lead to long-term social support and resilience.

Moral Affect Theory (McCullough, Kilpatrick, Emmons, & Larson, 2001) views gratitude as a moral emotion that promotes prosocial behavior and reciprocity. It is activated when individuals perceive that someone has intentionally benefited them, which motivates them to respond with prosocial behaviors. Gratitude encourages individuals to repay kindness or generosity by engaging in prosocial actions toward others. This reciprocal behavior strengthens social cohesion and cooperation within communities.

Cognitive Appraisal Theory (Lazarus & Folkman, 1984) suggests that emotions are based on the cognitive appraisal of situations and events. Gratitude arises when individuals positively appraise an event or outcome as beneficial, recognizing the role of an external benefactor. This appraisal prompts feelings of gratitude, leading to emotional satisfaction and stronger interpersonal bonds.

Self-Transcendence Theory (Emmons & McCullough, 2003) suggests that gratitude extends beyond the self, allowing individuals to recognize and appreciate contributions from others, the world, or a higher power. Gratitude promotes self-transcendence by helping individuals focus on external sources of good, fostering feelings of connectedness and responsibility toward others. It enhances altruistic behaviors, which further strengthen social ties and collective well-being.

Positive Psychology Theory (Seligman & Csikszentmihalyi, 2000) emphasizes the study of strengths and virtues that enable individuals to thrive. Gratitude is seen as a key component of well-being and happiness. Expressing and experiencing gratitude enhances life

satisfaction, improves relationships, and fosters overall psychological health, making it a cornerstone of flourishing.

2.1.3 Personal Feelings

Shame occurs when individuals believe that their entire self is defective or inferior, not just their actions. It is often linked to feelings of worthlessness, failure, or the belief that one's core identity is deeply flawed. Guilt is associated with a negative evaluation of one's behavior rather than the self. It typically involves recognizing that a specific action was wrong and often leads to feelings of remorse and a desire to make amends or correct the mistake.

Self-Discrepancy Theory (Higgins, 1987) suggests that emotions like shame and guilt arise when there is a gap between different aspects of the self—namely the actual self, ideal self, and ought self. Shame occurs when there is a discrepancy between the actual self (who one is) and the ideal self (who one wishes to be). This self-evaluation leads to feelings of inferiority or unworthiness. Guilt arises when there is a discrepancy between the actual self and the ought self (who one believes they should be in terms of moral obligations). Guilt focuses on failure to meet these obligations or responsibilities.

Attribution Theory (Weiner, 1985) deals with how individuals explain the causes of their own and others' behaviors, particularly focusing on internal (personal) vs. external (situational) attributions. Shame results from attributing a negative event or failure to internal, stable, and global causes, which can lead to feelings of helplessness. Guilt is linked to attributing wrongdoing to internal, specific, and controllable factors. This view encourages corrective actions and reparations.

Moral Emotion Theory (Tangney, 1991) explores how shame and guilt are moral emotions that play a crucial role in regulating behavior and maintaining social order. Shame is viewed as an emotion focused on the self. When individuals experience shame, they feel that they are morally deficient or bad as a whole, leading to self-condemnation and avoidance behaviors. Guilt focuses on specific behaviors rather than the self. It involves recognizing the harm done to others and is more likely to motivate reparative actions, such as apologizing or making amends.

Cognitive-Appraisal Theory (Lazarus, 1991) focuses on how individuals evaluate (or appraise) events and situations in their lives, determining how they feel about them. Shame is triggered when individuals appraise a situation as a failure or flaw that reflects negatively on their whole self. This emotional appraisal often leads to feelings of humiliation, exposure, and a desire to hide. Guilt arises when individuals appraise their behavior as harmful or wrong, but

without condemning their entire self. This cognitive appraisal often leads to feelings of regret and a desire to correct the behavior.

Affect Theory (Tomkins, 1962) suggests that shame is one of the basic human affects and serves as a response to obstacles in achieving positive emotions such as pride or joy. Shame is seen as a core affect that is triggered when there is an interruption in positive affect. It is an early emotional signal that prompts withdrawal or avoidance. While Tomkins didn't focus as much on guilt, the theory supports the idea that guilt is an affect that arises when the interruption in positive affect is directly tied to harmful actions or moral transgressions.

Dual-Process Model of Shame and Guilt (Dearing, Tangney, 2002) distinguishes between the processes underlying shame and guilt, highlighting their different psychological impacts. Shame is seen as a self-oriented process that leads to feelings of worthlessness, withdrawal, and avoidance due to the global devaluation of the self. Guilt is seen as a behavior-oriented process that focuses on the specific transgression, encouraging reparative actions such as apology or making amends, thereby leading to constructive social outcomes.

2.2 Review of Related Literature

The review of literature explores the existing literature on the relationships between parental nurturance, gratitude, shame, and guilt among young adults. It also examines differences in the expression of gratitude and experiences of shame and guilt between individuals raised in urban versus rural environments.

2.2.1 Review Related to Parental Nurturance

Fernandes.S et.al(2019) conducted a study on the relationship between parental nurturance and the social self-esteem and emotional self-efficacy of adolescents. The sample of the study was 180 adolescents (90 males and 90 females) aged 11 to 19 years from North and South Goa was selected using convenience sampling methods. The study employed the Parental Nurturance Scale (Buri, 1988), the Social Self-Esteem Scale (Repišti & Kerla, 2011, 2013), and the Emotional Self-Efficacy Scale for Adolescents (Qualter et al., 2015) to collect quantitative data. Results revealed a weak positive relationship between parental nurturance and both social self-esteem and emotional self-efficacy in adolescents.

Macharia, S. M., & Muiru, A. (2016) conducted a study on the relationship between parental involvement and the self-esteem among adolescents in secondary school students in Kieni West District in Nyeri County. The study was based an investigation in secondary schools in Kieni West district, Nyeri County, Kenya. Quantitative data was collected from 200 participants selected from 8 schools using probability sampling method. Qualitative data was collected from 8 participants selected from 8 schools using the purposive sampling method.

Adolescents in this research were found to have high self esteem. This research found a relationship between the variables. Self esteem among adolescents was found to be related to parental involvement.

Nishad, R., & Nishad, P. (2017) conducted a study on “parental nurturance and its relation to their child’s social and emotional behavior” were conducted on 120 purpose cum randomly selected children of preschool, age group of 4-6 years from the area of Ambedkar Nagar district (Uttar Pradesh). Two self prepared questionnaires based on parental nurturance and children’s social and emotional behavior were used to assess the parental nurturance and its relation to their child’s social and emotional behavior. It is concluded on the basis of the result that parental nurturance was positive Correlated with their children’s social and emotional behavior. Therefore it is revealed that good parental nurturance always has good impact on their children.

Reid, M. L. (2011) conducted a study on the effects of parental nurturance and involvement of peer relationships and psychosocial functioning of young adults. This study examined peer relationships and psychosocial functioning as a function of maternal and paternal involvement and nurturance along with the moderating effects of gender, family form, and ethnicity. The sample consisted of 1359 students who identified their biological mother and father as the most influential parental figures in their lives. Their ages ranged from 18 to 26; Sixty-one percent of the sample was Hispanic, 13% non-Hispanic Black, 25% non-Hispanic White; 76% female and 70% from intact families. All dimensions of maternal and paternal nurturing and involvement were positively related to positive characteristics of peer relationships, self-esteem and life satisfaction consistent with the multicultural findings of PAR Theory (Rohner, Khalique, & Cournoyer, 2005). These effects of both maternal and paternal influence were strongly moderated by culture, family form, and gender.

Goering, M., & Mrug, S. (2023) conducted a study on The Effects of Parental Nurturance, Harsh Discipline, and Inter-Parental Conflict on Empathy Development in Early Adolescence. His study used data from an ethnically diverse sample of 704 youth who reported on their parents’ nurturance, harsh discipline, and inter-parental conflict at age 11; on their own empathy at ages 11 and 13; and on their pubertal timing at age 13. The results showed that only parental nurturance uniquely predicted more empathy at age 13 and that this effect was stronger in females. Harsh discipline and inter-parental conflict were only concurrently associated with lower empathy at age 11.

2.2.2 Review Related to Gratitude

Komase, Y., et al. (2021) conducted a study on Effects of gratitude intervention on mental health and well-being among workers. This study aimed to systematically summarize the effectiveness of gratitude interventions on workers' mental health and well-being. Systematic search was conducted in February 2021 using five databases. Eligible studies included randomized controlled trials implementing gratitude activities among healthy workers and measuring mental health or well-being indicators and original articles or thesis in English. Gratitude interventions might be effective in improving mental health, but their effects on well-being remain unclear. The total number of gratitude lists and reflections might influence the effect on mental health and well-being.

Unanue, W., et al. (2019) conducted a study on The Reciprocal Relationship Between Gratitude and Life Satisfaction: Evidence From Two Longitudinal Field Studies. Gratitude and life satisfaction are associated with several indicators of a good life (e.g., health, pro-social behavior, and relationships). Two adult samples from Chile were taken, using three-wave cross-lagged panel designs with 1 month (Study 1, N = 725) and 3 months (Study 2, N = 1,841). The reciprocal relationships suggest the existence of a virtuous circle of human well-being: higher levels of gratitude increase life satisfaction, which in turn increases gratitude, leading to a positive spiral.

Witvliet, V. O., et al. (2018) conducted a study on "Gratitude Predicts Hope and Happiness: A Two-Study Assessment of Traits and States". It investigates the relationship between gratitude, hope, and happiness. It examines how gratitude, both as a trait (a more stable personality characteristic) and a state (a temporary emotional experience), can predict positive emotional outcomes, particularly hope and happiness. Individuals who consistently exhibit gratitude as a personality trait tend to experience higher levels of hope and happiness. This suggests that a grateful disposition can serve as a protective factor, promoting emotional resilience and well-being. The study also shows that when individuals engage in momentary experiences of gratitude (state gratitude), such as reflecting on things they are thankful for, they report immediate increases in both hope and happiness.

Emmons, R. A., & McCullough, M. E. (2003) conducted a study on "Counting Blessings Versus Burdens: An Experimental Investigation of Gratitude and Subjective Well-Being in Daily Life". Participants were divided into three groups: Gratitude group; Participants kept a weekly journal where they listed things for which they were grateful. Hassles group; Participants recorded daily hassles or burdens in their lives. Neutral group; Participants simply noted everyday events without labeling them as positive or negative. The study was

conducted across three experiments over varying periods, with participants reporting their levels of subjective well-being, mood, and physical symptoms. Participants in the gratitude condition reported significantly higher levels of subjective well-being compared to those in the hassles or neutral groups. They experienced greater levels of happiness, life satisfaction, and optimism. Participants who focused on gratitude showed lower levels of negative emotions like envy, resentment, and frustration compared to those who focused on burdens or neutral events.

Yadav, G. (2010) conducted a study on psychological well being and gratitude of adolescents in relation to personality bonding and happiness of parents. The sample comprised of 200 adolescents (100 males and 100 females), the sample further consisted of parents of the adolescents, so thereby making the total sample to be 600. The age range of the subjects was 16-18 years. The Psychological Well-Being test devised by Ryff and Keyes (1995), Positive and Negative Affect Schedule (PANAS) developed by Watson et al. (1988), Satisfaction with Life was measured using Satisfaction with Life scale developed by Diener et al. (1985), Gratitude Questionnaire devised by McCullough et al. (2002), Coping Styles Inventory by Carver et al. (1989), Parental Bonding Instrument by Parker et al. (1979) were used. In the total sample of adolescents, Gratitude was positively and significantly correlated with Extraversion, Perceived Parental Care.

2.2.3 Review Related to Personal Feeling

Choi, H. (2024) conducted a study on Integrating Guilt and Shame into the Self-Concept: The Influence of Future Opportunities. This study explored the integration of guilt and shame experiences into the self-concept, focusing on how perceived future opportunities affect this process. The participants in Study 1 ($N = 201$) and Study 2 ($N = 221$) recalled experiences that elicited either guilt or shame and that they believed could occur again in the future (i.e., repeatable) or could not (i.e., non-repeatable). The results showed that when the participants viewed an event as repeatable, suggesting that future opportunities for change were possible, they were more likely to accept and integrate the experiences associated with guilt than with shame. This difference disappeared when the target event was non-repeatable, thereby providing no future opportunities for change. These findings underscore the different roles of guilt and shame in identity development and intrapersonal learning.

Carlos, A., et al. (2020). conducted a study on relation of guilt, shame, behavioural and characterological self-blame to depressive symptoms in adolescents over time. In a two-wave, longitudinal study, 221 nonreferred adolescents completed measures of guilt, shame, Behavioral self-blame (BSB), Characterological self-blame (CSB), depressive symptoms measures, and attributional style. Specific aims were (1) to examine the relation of depressive

symptoms and depressive cognitions to shame, guilt, CSB, and BSB, (2) to estimate the longitudinal relations between depressive symptoms and measures of guilt, shame, BSB, and CSB, and (3) to assess the convergent and discriminant validity of shame/CSB measures and guilt/BSB measures. Results suggest that shame and CSB converge into a common construct, significantly related to depressive symptoms and cognitions. Convergence of guilt and BSB, however, was limited to particular pairs of measures.

Oh, H. (2023) conducted The differential roles of shame and guilt in the relationship between self-discrepancy and psychological maladjustment. The aim of this study was to determine the distinct characteristics of each shame and guilt in relation to the connection between actual/ideal self-discrepancy and depression, as well as actual/ought self-discrepancy and anxiety. A total of 403 participants completed an online questionnaire assessing their self-discrepancy, shame, guilt, depression, and anxiety. Correlational analysis and structural equation modeling (SEM) analysis were used to assess the goodness of fit of the proposed model and the structural relationships between the variables. The key findings were as follows: (1) There were positive correlations among actual/ideal self-discrepancy, actual/ought self-discrepancy, shame, guilt, depression, and anxiety; (2) Shame partially mediated the association between actual/ideal self-discrepancy and depression; and (3) Guilt fully mediated the association between actual/ought self-discrepancy and anxiety. These outcomes uphold the self-discrepancy theory by confirming a distinct intra-psychological process involving shame and guilt.

Sheehy, K., et al. (2019) conducted a study on An examination of the relationship between shame, guilt and self-harm: A systematic review and meta-analysis. This review therefore sought to provide a systematic review and meta-analysis of the relationship between shame, guilt, and self-harm. A systematic search of electronic databases (PsycINFO; Medline; CINAHL Plus; Web of Science and ProQuest) was undertaken to identify studies measuring shame, guilt and self-harm (including suicidal and non-suicidal behaviour). Meta-analysis was undertaken where papers focused on the same subtype of shame or guilt and shared a common outcome. Thirty studies were identified for inclusion. Most forms of shame were associated with non-suicidal self-injury (NSSI), but research was sparse concerning suicidal behaviour. Fewer studies examined guilt and findings were more varied. Results of this review support the link between shame and self-harm, particularly NSSI. The direction of this relationship is yet to be established. Clinically, consideration should be given to the role of shame amongst individuals who present with NSSI.

Muris, P., et al. (2015) conducted a study on Lack of guilt, guilt, and shame: a multi-informant study on the relations between self-conscious emotions and psychopathology in clinically referred children and adolescents. The present study examined the relationships between dysregulations in self-conscious emotions and psychopathology in clinically referred children and adolescents. For this purpose, parent-, teacher-, and self-report Achenbach System of Empirically Based Assessment data of 1000 youth aged 4–18 years was analyzed as this instrument not only provides information on the intensity levels of lack of guilt, guilt, and shame, but also on the severity of various types of psychopathology. The results first of all indicated that dysregulations of self-conscious emotions were more common in this clinical sample than in the general population. Further, a consistent pattern was found with regard to the relationships between self-conscious emotions and childhood psychopathology. That is, lack of guilt was predominantly associated with oppositional defiant and conduct (i.e., externalizing) problems, while guilt and shame were primarily linked with affective and anxiety (i.e., internalizing) problems. These findings confirm what has been found in non-clinical youth, and suggest that self-conscious emotions play a small but significant role in the psychopathology of children and adolescents.

2.3 Research Gap

There are some notable gaps in the research on how parental nurturing affects feelings of thankfulness, shame, and guilt. Studies examining these processes in particular cultural contexts—like Kerala's—are conspicuously lacking, which could lead to the discovery of distinct patterns not found in Western environments. Furthermore, the varying effects of parental nurturing on males and females are still poorly understood, despite the fact that gender disparities in emotional experiences are acknowledged. Furthermore, little research has been done on how living in an urban vs rural setting affects these emotional results, nor how thankfulness and shame and guilt interact. Moreover, the majority of the research that has already been done uses cross-sectional data, which emphasizes the necessity of longitudinal studies to monitor these associations over time. Addressing these gaps could provide a more nuanced understanding and lead to more effective, culturally relevant strategies for fostering positive emotional development.

2.4 Research Question

Is there any significant relationship between the variables parental nurturance, gratitude, shame, and guilt among young adults, and are there any significant differences in gratitude, shame and guilt based on urban versus rural upbringing?

Method

3.1 Objectives

3.1.1 To examine the relationship between parental nurturance and gratitude among young adults.

3.1.2 To examine the relationship between parental nurturance and shame among young adults.

3.1.3 To examine the relationship between parental nurturance and guilt among young adults.

3.1.4 To examine the relationship between gratitude and shame in young adults.

3.1.5 To examine the relationship between gratitude and guilt in young adults.

3.1.6 To examine whether there are significant differences in Parental Nurturance between young adults raised in urban and rural environments.

3.1.7 To examine whether there are significant differences in gratitude between young adults raised in urban and rural environments.

3.1.8 To examine whether there are significant differences in shame between young adults raised in urban and rural environments.

3.1.9 To examine whether there are significant differences in guilt between young adults raised in urban and rural environments.

3.2 Variables and Operational Definitions

3.2.1 Parental Nurturance

Parental nurturance is the provision of consistent emotional support and physical proximity that promotes a secure attachment bond between the parent and child, allowing the child to explore the world with confidence while feeling emotionally supported.(Bowlby, 1969).

Parental nurturance is defined as the parental behaviors that support a child's need for relatedness, autonomy, and competence. This involves being emotionally present, offering guidance while respecting the child's independence, and providing unconditional love.(Deci & Ryan, 1985).

Parental nurturance refers to the degree of warmth, affection, support, and guidance provided by parents or primary caregivers to their children. It is characterized by behaviors such as emotional availability, positive reinforcement, active listening, and encouragement of independence, as well as the establishment of secure, trusting relationships.

3.2.2 Gratitude

Gratitude is defined as a “positive emotional response that follows from the perception that one has benefited from the actions of another person.” It involves recognizing both the benefit and the giver’s intentionality behind it.(Emmons & McCullough ,2003).

Gratitude is considered a moral emotion that prompts prosocial behavior. It arises when individuals perceive that someone has intentionally provided them with something of value and motivates reciprocal actions or expressions of appreciation.(McCullough, Kilpatrick, Emmons, & Larson, 2001).

Gratitude is the feeling of appreciation or thankfulness for something received, whether it is a tangible gift, a kind action, or an emotional benefit. It involves recognizing the positive aspects of life and acknowledging the contributions of others.

3.2.3 Personal Feelings

Shame occurs when individuals believe that their entire self is defective or inferior, not just their actions. It is often linked to feelings of worthlessness, failure, or the belief that one’s core identity is deeply flawed.Guilt is associated with a negative evaluation of one's behavior rather than the self. It typically involves recognizing that a specific action was wrong and often leads to feelings of remorse and a desire to make amends or correct the mistake.

Shame is a painful emotion that arises from a negative evaluation of the self, where an individual feels they are fundamentally flawed, inadequate, or unworthy. It often involves a sense of exposure, humiliation, and a desire to hide or withdraw from others.Guilt is an unpleasant emotion that arises when an individual feels responsible for a specific wrongdoing or moral failure, often involving regret over an action or behavior that has harmed others or violated personal values.

3.2.4 Young Adults

Young adults are typically defined as individuals aged 18 to 25 years (Arnett, 2000), aligning with the concept of emerging adulthood—a developmental phase characterized by identity exploration, instability, and self-focus. It is a period of transition from adolescence to fully independent adulthood.

3.3 Hypotheses

The following hypotheses are considered for the study:

3.3.1 There is no significant relationship between parental nurturance and gratitude among young adults.

3.3.2 There is no significant relationship between parental nurturance and shame among young adults.

3.3.3 There is no significant relationship between parental nurturance and guilt among young adults.

3.3.4 There is no significant relationship between gratitude and shame among young adults.

3.3.5 There is no significant relationship between gratitude and guilt among young adults.

3.3.6 There is no significant difference in Parental Nurturance among young adults raised in rural and urban environments

3.3.7 There is no significant difference in gratitude among young adults raised in rural and urban environments

3.3.8 There is no significant difference in shame between young adults raised in urban and rural environments.

3.3.9 There is no significant difference in guilt between young adults raised in urban and rural environments.

3.4 Sample

The population under the study is 200 young adults aged 18-25 from Kerala, including individuals who are both studying and working. A convenient sampling method was used to select participants for this study. The sample were selected based on their accessibility and willingness to take part in the research.

3.4.1 Inclusion Criteria

3.4.1.1 Participants should be young adults aged between 18 and 25 years.

3.4.1.2 Participants must have a living parent or guardian with whom they have had a relationship with.

3.4.1.3 Participants should have minimum level of education (10th standard) to self-report on their experiences of parental nurturance, gratitude, and harder personal feelings.

3.4.1.4 Participants must be willing and able to provide informed consent to participate in the study. This includes understanding the purpose of the research and agreeing to the terms of participation.

3.4.1.5 Participants may be required to be from any district in kerala.

3.4.2 Exclusion Criteria

3.4.2.1 Exclude individuals who have recently experienced significant life events (e.g., death of a parent, divorce of parents)

3.4.2.2 Exclude individuals who fail to complete the questionnaire properly(either incomplete or inaccurate)

3.4.2.3 Exclude individuals raised in institutional settings (e.g., orphanages, foster care).

3.4.3 Split Groups of the Sample

The study of the variable Parental Nurturance, Gratitude, Personal Feelings is conducted in 100 urban-raised and 100 rural-raised young adults.

3.5 Assessment Tools

3.5.1 Parental Nurturance Scale(PNS)

This scale was developed by Buri, Misukanis & Mueller in 1989 This scale measures parental nurturance from the individual's point of view. The same form can be used twice to evaluate the child's mother and father. There are 28 items in the scale. Responses range from 1= Strongly Disagree to 5= Strongly Agree. To score the scale, reverse code 1,3,7,8,11,13,14,16,18, 19,21,24. Sum all item scores together for a total score.

The Parental Nurturance Scale generally demonstrates good internal consistency. Cronbach's alpha coefficients for the scale are typically reported to be in the range of 0.80 to

0.90. The scale has demonstrated strong convergent validity, good construct validity, and adequate discriminant validity.

Normative data for the PNS is typically based on large, diverse samples that reflect various demographic characteristics, including age, gender, socioeconomic status, and cultural background. The PNS is usually standardized on a large and diverse sample, which provides a reliable basis for comparing individual scores to the general population. The PNS has been adapted and validated in various cultural contexts, ensuring that it accurately reflects the concept of nurturance across different cultural groups.

3.5.2 GQ6 Gratitude Questionnaire-6

The Gratitude Questionnaire-Six-Item Form (GQ-6) is a six-item self-report questionnaire designed to assess individual differences in the proneness to experience gratitude in daily life. Responses range from 1 = strongly disagree 2 = disagree 3 = slightly disagree 4 = neutral 5 = slightly agree 6 = agree 7 = strongly agree. To score the scale, compute a mean across the item ratings; items 3 and 6 are reverse-scored.

The GQ-6 has been shown to have good internal consistency, with Cronbach's alpha values typically reported around 0.82 to 0.87 across different studies. Test-retest reliability (which measures the stability of scores over time) has also been reported as high, with correlations ranging from 0.70 to 0.85 over periods of several weeks, indicating that the scale provides stable results over time. The GQ-6 has demonstrated good construct validity. The GQ-6 has been used in a variety of populations, including adults, adolescents, and cross-cultural studies. The standardization process involved large and diverse samples, which helps ensure the scale's applicability across different demographic groups. The GQ-6 has robust normative data that make it a reliable tool for assessing gratitude across different groups.

3.5.3 Harder Personal Feelings Questionnaire (PFQ2)

The scale was developed by David W. Harder. The PFQ2 is a 22-item instrument designed to measure proneness to shame and guilt. The PFQ2 is composed of two subscales, one for measuring shame and one for measuring guilt. The shame subscale comprises items 1, 3, 6, 7, 10, 12, 14, 16, 18, and 21. The guilt subscale comprises items 2, 4, 8, 11, 17, and 22. The PFQ2 is easily scored by summing the items on each subscale. Scores on the shame subscale ranged from 0 to 40 and on the Guilt subscale, 0 to 24. Higher scores on both subscales mean greater amounts of shame and guilt.

The PFQ2 and its predecessor scale, the PFQ, have been examined in a number of studies. Some major data are based on a sample of 63 college students, 90% freshmen, with 37 male and 26 female, aged 17-22 with a mean of 18.46 years. Mean age for the shame subscale was 16.13 (SD =4.51) and for the guilt subscale, was 9.76 (SD = 3.11).The PFQ2 has fair to good internal consistency with alphas of .72 for guilt and .78 for shame. Both subscales demonstrate good to excellent test stability with 2-week, test-retest correlations of .85 for guilt and .91 for shame.The PFQ2 has established good construct validity.

3.6.Research Design

Research design refers to the overall framework and methodology used to conduct a study, guiding the data collection, analysis, and interpretation processes. It helps ensure that the research objectives are met systematically and effectively.Descriptive statistics summarize the data through measures such as mean, median, and standard deviation, while inferential statistics help draw conclusions about the population based on the sample data.For data analysis, inferential statistics were used.

This study employs a correlational research design, which examines the relationships between variables without manipulating them. Correlational studies help determine associations and strengths of relationships between different factors.To assess relationships between variables, Spearman's Rank Correlation was used, as it measures the strength and direction of monotonic relationships between non-parametric variables. Additionally, the Mann-Whitney U test was applied to compare differences between parental nurturance, gratitude, guilt and shame in young adults raised in rural and urban environments when the data did not meet the assumptions of parametric tests.

3.7 Data Collection Procedure

For data collection, researcher approached various colleges under kottayam and other individuals from various parts of kerala.Instructions were given to the participants about the purpose of the research and the method to complete the questionnaire. A questionnaire to fill in the socio-demographic details of the participants were given.Each participant was provided with an informed consent form. This form explained the study's purpose, procedures, and the participant's right to withdraw at any time. Participants signed the consent form before proceeding with the study.

The instruments were administered to the participants either individually or in groups. They completed the questionnaires in a controlled environment (e.g., a quiet room in a school or community center) without the influence of others. The researcher was present during this time to clarify any doubts of the participants. Participation was entirely voluntary and the data collected was confidential.

3.8 Statistical Techniques

The Statistical Package for the Social Science (SPSS), is a tool used by researchers of all hues to analyze complex statistical data. The SPSS software package was created for the management and statistical analysis of social science data. Inference based testing was conducted. SPSS software version 23 was used for data analysis.

Descriptive statistics main objective is to describe a dataset's observable characteristics. Spearman's Correlation test was used to analyze the relationship between the variables and Mann Whitney test was conducted to find the differences in gratitude among males and females and differences in harder personal feelings among urban and rural raised young adults.

Result & Discussion

4.1 Result

Table 1

The normal distribution test for the variables Parental Nurturance, Gratitude, Personal feelings using Shapiro Wilk Test

	Statistics	df	Sig.(p-value)
Parental Nurturance	0.984	200	0.022
Gratitude	0.900	200	0.000
Shame	0.868	200	0.000

Guilt	0.871	200	0.000
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Table 1 shows the normal distribution test for the variables Parental Nurturance, Gratitude, Personal feelings using Shapiro Wilk Test..

Table 2

The correlation coefficient and p-value of the variables Parental Nurturance and Gratitude among Young Adults

Variable	Gratitude
r-value	0.371
Parental Nurturance	
p-value	0.000

Table 2 shows the Spearman Rank Correlation and significance(2-tailed) p-value of Parental Nurturance and Gratitude among young adults. The r-value and p-value of the variables Parental Nurturance and Gratitude are 0.371 and 0.000 respectively. Correlation is significant at 0.01 level(2-tailed).there is a moderate positive correlation among the variables.

Table 3

The correlation coefficient and p-value of the variables Parental Nurturance and Shame among Young Adults.

Variable	Shame

	r-value	0.012
Parental Nurturance		
	p-value	0.867

Table 3 shows the Spearman Rank Correlation and Significance(2-tailed) p-value of Parental Nurturance and Shame among young adults. The r-value and p-value of the variables Parental Nurturance and Shame are 0.012 and 0.867 respectively. Correlation is not statistically significant at 0.01 level(2-tailed). There is a very weak positive correlation among the variables.

Table 4

The correlation coefficient and p-value of the variables Parental Nurturance and Guilt among young adults.

Variable	Guilt
	r-value
Parental Nurturance	-0.024
	p-value
	0.738

Table 4 shows the Spearman Rank Correlation and Significance(2-tailed) p-value of Parental Nurturance and Guilt among young adults. The r-value and p-value of the variables Parental Nurturance and Guilt are -0.024 and 0.738 respectively. Correlation is not statistically significant at 0.01 level(2-tailed). There is a very weak negative correlation among the variables.

Table 5

The correlation coefficient and p-value of the variables Gratitude and Shame among Young Adults.

Variable	Shame
r-value	0.069
Gratitude	
p-value	0.331

Table 5 shows the Spearman Rank Correlation and Significance(2-tailed) p-value of Gratitude and Shame among young adults. The r-value and p-value of the variables Gratitude and Shame are 0.069 and 0.331 respectively. Correlation is not statistically significant at 0.01 level(2-tailed). There is a weak positive correlation among the variables.

Table 6

The correlation coefficient and p-value of the variables Gratitude and Guilt among young adults.

Variable	Guilt
r-value	-0.056
Gratitude	
p-value	0.431

Table 6 shows the Spearman Rank Correlation and Significance(2-tailed) p-value of Gratitude and Guilt among young adults. The r-value and p-value of the variables Gratitude and Guilt are -0.056 and 0.431 respectively. Correlation is not statistically significant at 0.01 level(2-tailed). There is a weak negative correlation among the variables.

Table 7

The Mean Rank, U-value, Significance value of Parental Nurturance, Gratitude, Subscales of Personal Feelings (shame and guilt) among young adults raised in urban and rural environments.

Variable	Group	N	Mean Rank	Sum of Rank	U-value	p-value
Parental Nurturance	Rural	100	104.28	10427.50	4822.500	0.504
	Urban	100	98.78	10075.50		
Gratitude	Rural	100	114.06	11406.00	3844.000	0.002
	Urban	100	89.97	9097.00		
Shame	Rural	100	97.44	9743.50	4693.500	0.325
	Urban	100	105.49	10759.50		
Guilt	Rural	100	95.16	9516.00	4466.000	0.125
	Urban	100	107.72	10987.00		

Table 7 shows the Mean Rank, U-value, and Significance value of subscales of personal feelings among young adults raised in urban and rural environments. The mean rank for the young adults raised in rural and urban environments of the variables Parental Nurturance are 104.28 and 98.78 respectively. The U-value and p-value for the young adults raised in urban and rural environments of the variables Parental Nurturance are 4822.500 and 0.504 respectively.

The mean rank for the young adults raised in rural and urban environments of the variables Gratitude are 114.06 and 89.07 respectively. The U-value and p-value for the young adults raised in urban and rural environments of the variables Gratitude are 3844.000 and 0.002 respectively.

The mean rank for the young adults raised in rural and urban environments of the variables shame are 97.44 and 105.49 respectively. The U-value and p-value for the young adults raised in urban and rural environments of the variables shame are 4693.500 and 0.325 respectively.

The mean rank for the young adults raised in urban and rural environments of the variables guilt are 95.16 and 107.72 respectively. The U-value and p-value for the young adults raised in urban and rural environments of the variables guilt are 4466.000 and 0.125 respectively.

4.2 Discussion

The aim of the study is to determine the relationships between parental nurturance and gratitude, shame, and guilt among young adults, to explore the connections between gratitude and both shame and guilt, and to assess whether there are significant differences in gratitude based on gender, as well as differences in shame and guilt between young adults raised in urban versus rural environment. Parental nurturance refers to the warmth, affection, support, and responsiveness that parents provide to their children. It includes emotional availability, encouragement, and care that foster a child's psychological well-being and social development. Parental nurturance is crucial in shaping emotional security, self-esteem, and interpersonal relationships. Gratitude is a positive emotional response to receiving benefits, kindness, or generosity from others. It involves recognizing and appreciating the contributions of others and can foster prosocial behaviors, well-being, and stronger social bonds. Personal feelings are self-conscious emotions that arise from an individual's evaluation of their actions in relation to moral, social, or personal standards. They influence self-perception, behavior, and interpersonal interactions. Dimensions of Personal feelings are Shame and guilt. Shame is a self-conscious emotion that occurs when an individual perceives themselves as fundamentally flawed or

unworthy due to their actions. It often leads to withdrawal, distress, and avoidance of social exposure. Guilt is a self-conscious emotion resulting from recognizing a specific wrongdoing or failure to meet moral or social expectations. Unlike shame, guilt focuses on the action rather than the self and often motivates reparative behaviors.

Table 1 shows the normal distribution test for the variables Parental Nurturance, Gratitude, Personal Feelings using Shapiro Wilk Test. From the table, it can be inferred that the data for these variables do not follow a normal distribution. The Shapiro-Wilk test shows p-values for all three variables are below 0.05. Since normality is violated, non-parametric test such as the Mann-Whitney U tests is used.

Table 2 shows the correlation between the variables Parental Nurturance and Gratitude among young adults. From the table, it is evident that there is a moderate correlation between Parental Nurturance and Gratitude. The correlation is positive correlation which indicates that the variables Parental nurturance and Gratitude increase/ decreases simultaneously. The table also indicates that the p-value is significant. Thus, individuals who have high degree of Parental Nurturance are more likely to develop high levels of Gratitude. People with high parental nurturance may be more inclined to focus on the positive aspects of life and express gratitude for what they have. Gratitude is linked to higher life satisfaction, better mental health, and improved interpersonal relationships.

Table 3 shows the correlation between the variables Parental Nurturance and Shame among young adults. From the table, it is evident that there is a very weak positive correlation between Parental Nurturance and Shame. The table also indicates that the p-value is not statistically significant. However, since the correlation is very weak, the relationship between these variables is not strong enough to be meaningful. Furthermore, the p-value is not statistically significant, indicating that this correlation could have occurred by chance and does not provide strong evidence of a real relationship between Parental Nurturance and Shame. One possible explanation for the weak and non-significant correlation in this study is that shame is influenced by multiple factors beyond parental nurturance, such as peer relationships, cultural norms, personality traits, and life experiences. Additionally, overprotective or highly involved parenting may lead to higher self-consciousness and fear of disappointing parents, thereby increasing feelings of shame.

Table 4 shows the correlation between the variables Parental Nurturance and Guilt among young adults. From the table, it is evident that there is a very weak correlation between Parental Nurturance and Guilt. The correlation is negative correlation which indicates that

suggesting that as Parental Nurturance increases, Guilt slightly decreases. The table also indicates that the p-value is not statistically significant. However, since the correlation is very weak, the relationship between these variables is not strong enough to draw meaningful conclusions. Additionally, the p-value is not statistically significant, implying that this observed correlation could have occurred by chance. One possible explanation for the weak and non-significant correlation is that guilt is influenced by a range of factors beyond parental nurturance, including moral development and personal values shaped by culture, religion, or education, individual differences in temperament and emotional regulation, which affect how individuals experience and respond to guilt.

Table 5 shows the correlation between the variables Gratitude and Shame among young adults. From the table, it is evident that there is a weak correlation between Gratitude and Shame. The correlation is positive correlation which indicates that as Gratitude increases, Shame also tends to increase slightly. The table also indicates that the p-value is not statistically significant. However, since the correlation is weak, the relationship between these variables is not strong enough to be considered meaningful. Additionally, the p-value is not statistically significant, meaning that the observed correlation could have occurred by chance. However, the weak positive correlation in this study may suggest that, in some cases, gratitude and shame can coexist rather than being strictly opposed.

Table 6 shows the correlation between the variables Gratitude and Guilt among young adults. From the table, it is evident that there is a weak correlation between Gratitude and Guilt. The correlation is negative which indicates that as Gratitude increases, Guilt slightly decreases. The table also indicates that the p-value is not statistically significant. However, since the correlation is weak, the relationship between these variables is not strong enough to be considered meaningful. Additionally, the p-value is not statistically significant, implying that the observed correlation could have occurred by chance factors. Individuals who regularly practice gratitude may be less likely to dwell on past mistakes or feel excessive guilt. Although the correlation is weak and not statistically significant, these findings suggest that gratitude may play a role in reducing excessive guilt, but the effect may be small or dependent on other factors.

Table 7 shows the Mean Rank, U-value, and Significance value of subscales of personal feelings among young adults raised in urban and rural environments. From the table it is evident that for the dimension Parental Nurturance, there is no difference in mean rank among young adults raised in urban and rural environments and it is not statistically significant. This indicates that environmental upbringing (urban vs. rural) does not significantly influence perceived

parental nurturance among young adults. One possible explanation is the increasing similarity in parenting practices across geographic locations due to modernization, access to digital resources, and changing family structures. Additionally, factors such as socioeconomic status, education, and cultural shifts might have a stronger impact on parental nurturance than geographic location alone. It also indicates that this difference is not significant, suggesting that the variation in parental nurturance between the two groups may be due to chance rather than a meaningful effect.

From the table it is evident that for the dimension Gratitude, there is a difference in mean rank among young adults raised in urban and rural environments and it is statistically significant. This indicates that there is a significant difference in Gratitude between young adults raised in urban and rural environments, as reflected in the difference in mean ranks and a statistically significant p-value. This suggests that environmental upbringing (urban vs. rural) plays a role in shaping levels of Gratitude among young adults. Rural environments often emphasize close-knit communities, strong interpersonal relationships, and collectivist values, which may encourage higher levels of gratitude due to frequent social support and shared responsibilities (McCullough et al., 2002). In contrast, urban environments, which may promote individualism and self-reliance, could lead to lower levels of expressed gratitude.

The table also indicated that there is no significant difference in mean rank for the dimension Shame and Guilt among young adults raised in urban and rural environments, and it is not statistically significant. This indicates that there is no significant difference in Shame and Guilt between young adults raised in urban and rural environments, as reflected in the similar mean ranks and a p-value above 0.05. This suggests that environmental upbringing (urban vs. rural) does not meaningfully influence levels of Shame and Guilt among young adults. Unlike gratitude, which may be shaped by social interactions and external support, shame and guilt are often triggered by personal experiences, such as failures, mistakes, or moral dilemmas (Luyten et al., 2007). An individual's personality, upbringing style, and past experiences may have a greater impact on shame and guilt than simply living in an urban or rural setting.

Summary & Conclusion

The study was focused on the relationship between Parental Nurturance, Gratitude, Personal Feelings among young adults. The objectives of the study were to determine the relationships between parental nurturance and gratitude, shame, and guilt among young adults, to explore the connections between gratitude and both shame and guilt, and to assess whether

there are significant differences in gratitude based on gender, as well as differences in shame and guilt between young adults raised in urban versus rural environment.

From the results of the study, it can be concluded that there is a significant relationship between Parental Nurturance and Gratitude and a significant difference in Gratitude between young adults raised in rural and urban environments. However, Parental Nurturance and Personal Feelings (Shame and Guilt) and Gratitude and Personal Feelings showed no significant relationship. There is a significant difference in Gratitude between individuals raised in rural and urban settings and there is no significant difference in Parental Nurturance, Shame and Guilt between individuals raised in rural and urban settings.

5.1 Conclusion

5.1.1 There is no statistically significant relationship between parental nurturance and gratitude among young adults has been rejected.

5.1.2 There is no statistically significant relationship between parental nurturance and shame among young adults has been retained.

5.1.3 There is no statistically significant relationship between parental nurturance and guilt among young adults has been retained.

5.1.4 There is no statistically significant relationship between gratitude and shame among young adults has been retained.

5.1.5 There is no statistically significant relationship between gratitude and guilt among young adults has been retained.

5.1.6 There is no statistically significant difference in Parental Nurturance among young adults raised in rural and urban environments has been retained.

5.1.7 There is no statistically significant difference in gratitude among young adults raised in rural and urban environments has been rejected.

5.1.8 There is no statistically significant difference in shame between young adults raised in urban and rural environments has been retained.

5.1.9 There is no statistically significant difference in guilt between young adults raised in urban and rural environments has been retained.

5.2 Implications

The implications of the result shows that there is a moderate positive correlation between parental nurturance and gratitude. This suggests that nurturing parenting fosters appreciation and a positive outlook on life. This reinforces the importance of warm, supportive parenting

styles in promoting emotional well-being. Educators and psychologists can encourage family-based gratitude interventions to enhance emotional resilience in young adults.

The weak correlation between parental nurturance and shame and guilt suggests that these emotions are influenced by other factors such as peer relationships, cultural expectations, and personal experiences. However, overprotective or highly involved parenting may increase self-consciousness, leading to mild increases in shame. Parenting programs should balance emotional support with autonomy development to prevent excessive self-conscious emotions.

The weak and non-significant correlations between gratitude and shame/guilt indicate that gratitude does not necessarily reduce these emotions in a meaningful way. However, practicing gratitude may help individuals regulate negative emotions, aligning with research suggesting that gratitude buffers against excessive guilt and distress.

The lack of a significant difference in Parental Nurturance between rural and urban young adults highlights the potential role of broader societal and cultural factors in shaping parenting practices. The lack of significant differences suggests that socioeconomic status, education levels, and cultural values may play a more crucial role in parental nurturance than geographic upbringing. Future interventions should consider economic support, parental education programs, and cultural influences when designing strategies to enhance parental nurturance. Since geographic location alone does not explain variations in parental nurturance, future studies should explore other possible moderating factors, such as family dynamics, employment status of parents, and psychological well-being of caregivers.

The significant difference in gratitude between rural and urban young adults highlights the role of environmental upbringing in shaping emotional attitudes. Rural environments promote community-based gratitude, while urban settings may encourage individualism, potentially affecting gratitude expression. Policymakers and educators can integrate community-based gratitude programs in urban areas to enhance social connectedness.

The lack of a significant difference in shame and guilt across urban and rural groups suggests that environment alone does not strongly influence these emotions. Instead, personal experiences, cultural norms, and parenting styles may shape how individuals experience shame and guilt. Psychological interventions should consider personal and family dynamics rather than location-based differences when addressing these emotions.

5.3 Limitations of the Study

5.3.1 The study primarily relies on self-reported data from young adults, which may be influenced by social desirability, memory recall issues, or personal biases in assessing parental nurturance and emotional experiences.

5.3.2 Since the research focuses on young adults in Kerala, the findings may not be generalizable to other cultural or socio-economic contexts where parenting styles, gratitude expressions, and emotional experiences may differ.

5.3.3 Participants may reflect on past parental nurturance from childhood or adolescence, leading to potential inaccuracies in recalling parental behaviors or emotional responses.

5.3.4 The study focuses only on shame and guilt as dimensions of personal feelings, while other emotions (e.g., pride, regret, embarrassment) may also be influenced by parental nurturance and gratitude.

5.3.5 Other potential confounding variables, such as peer influence, life experiences, socioeconomic status, or personality traits, may affect gratitude and personal feelings, making it difficult to isolate the impact of parental nurturance alone.

5.3.6 If the study is cross-sectional (conducted at one point in time), it does not capture how parental nurturance and gratitude evolve over time and how these emotions influence long-term psychological well-being.

5.4 Suggestions for Further Research

5.4.1 Conducting a longitudinal study rather than a cross-sectional one can help track changes in parental nurturance, gratitude, and personal feelings (shame and guilt) over time. This would provide deeper insights into cause-and-effect relationships.

5.4.2 Expanding the study beyond Kerala to include participants from different cultural, socio-economic, and familial backgrounds would enhance the generalizability of findings. Including young adults from various educational and occupational backgrounds (students, working professionals, unemployed individuals) could also offer a broader perspective by diversifying the sample.

5.4.3 Combining quantitative methods (e.g., validated psychological scales, surveys) with qualitative methods (e.g., in-depth interviews, focus groups) would provide a richer understanding of how parental nurturance influences gratitude and personal emotions.

5.4.4 By using objective measures of gratitude and emotional responses instead of solely relying on self-reports, incorporating behavioral measures of gratitude (e.g., observed gratitude expressions, journaling exercises) could reduce social desirability bias. Physiological indicators (e.g., heart rate variability, facial expressions) could provide insights into emotional responses linked to shame and guilt.

5.4.5 Designing intervention programs that promote gratitude practices or parental warmth and measuring their impact on personal feelings over time would provide more actionable insights for mental health professionals and educators.

5.4.6 Including parental perspectives through interviews or surveys could validate and complement young adults' perceptions of nurturance. Understanding parents' intentions vs. children's experiences can offer deeper insights into family dynamics.

5.4.7 Comparing parental nurturance, gratitude, and personal feelings between different family structures (nuclear, joint, single-parent households) or parenting styles (authoritative, authoritarian, permissive) could add depth to the research findings.

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Green Supply Chain Management Practices: Impact on Performance

Ms Sachumol Joy

Kristu Jyoti College of Management and Technology

Changannassery

Abstract

Green Supply Chain Management (GSCM) refers to the integration of environmental concerns into supply chain management processes, aiming to reduce the environmental footprint while improving operational efficiency. This paper investigates the impact of GSCM practices on organizational performance, focusing on environmental, economic, and operational outcomes. The study examines various GSCM practices, such as sustainable sourcing, eco-friendly packaging, waste reduction, energy efficiency, and carbon footprint reduction, and their influence on supply chain performance. By reviewing case studies and empirical research, the paper highlights the positive relationship between the adoption of green practices and enhanced operational efficiency, cost reductions, and improved brand image. Additionally, GSCM practices are found to lead to regulatory compliance, increased market competitiveness, and long-term sustainability. The paper concludes by offering insights on the strategic importance of GSCM for businesses aiming to improve both their environmental impact and overall performance, while suggesting areas for further research, particularly in the context of global supply chains and emerging technologies.

Introduction

In the face of increasing environmental concerns and stricter regulatory pressures, businesses worldwide are focusing on sustainability initiatives to reduce their environmental footprints while improving operational performance. Green Supply Chain Management (GSCM) has emerged as a critical strategy for organizations seeking to align their supply chain operations with environmental goals, societal expectations, and corporate responsibility. GSCM integrates environmentally friendly practices into every stage of the supply chain, from sourcing raw materials to product delivery, ultimately aiming to minimize waste, energy consumption, and carbon emissions.

The concept of GSCM involves not only improving environmental performance but also driving economic and operational advantages for organizations. Practices such as sustainable procurement, waste reduction, energy-efficient logistics, and eco-friendly

packaging are becoming essential to staying competitive in an increasingly green-conscious market. Moreover, as customers, regulators, and stakeholders demand more sustainable practices, adopting GSCM strategies has become crucial for achieving regulatory compliance, enhancing brand reputation, and fostering long-term business success.

While the benefits of GSCM practices are evident, the impact of these practices on organizational performance—encompassing economic, environmental, and operational outcomes—remains an area of significant research interest. The adoption of green practices can reduce operational costs through improved efficiencies, lower resource consumption, and waste minimization. Additionally, companies engaging in GSCM can benefit from enhanced customer loyalty, improved market positioning, and increased opportunities for innovation and collaboration across supply chains.

However, challenges remain. The transition to a greener supply chain often requires significant investment in technology, infrastructure, and training. Furthermore, the financial and operational impacts of implementing GSCM practices can vary across industries, making it essential to understand which practices are most effective for improving performance.

This paper aims to explore the relationship between GSCM practices and organizational performance by examining the various environmental, economic, and operational benefits derived from the adoption of green practices within supply chains. The study also seeks to identify potential barriers to the implementation of GSCM practices, providing a comprehensive overview of their impact on supply chain performance.

Objectives

- To explore key green supply chain management practices
- To assess the environmental impact of GSCM practices
- To analyze the economic benefits of GSCM
- To identify barriers and challenges in implementing GSCM practices

Literature review

One core element of GSCM is the circular supply chain, which minimizes waste by creating closed-loop systems where products and materials are reused, recycled, or remanufactured. Organizations that implement circular supply chains design products for durability, repairability, and easy disassembly (Farooque et al., 2019). This allows them to repurpose the products at the end of their life (De Angelis et al., 2018). This approach conserves resources, reduces environmental impact, lowers costs, and enhances sustainability (Lahane et

al., 2020).

A sustainable supply chain integrates environmentally and socially responsible practices throughout production and distribution processes (Carter and Rogers, 2008). It prioritizes energy efficiency, ethical sourcing, waste reduction, and the use of eco-friendly materials. These practices not only minimize environmental impacts but also promote fair labor, community well-being, and compliance with environmental regulations (Seuring and Müller, 2008). Sustainable supply chains enhance corporate reputations, attract eco-conscious consumers, and reduce operational risks, driving long-term financial performance (Carter and Liane Easton, 2011).

A carbon-free supply chain focuses on reducing or eliminating greenhouse gas emissions across supply chain activities (Gillingham and Stock, 2018). Organizations pursue this by utilizing renewable energy, adopting electric transportation, and optimizing logistics (Juan et al., 2016). They may also engage in carbon offset initiatives such as reforestation and investing in clean energy projects (Lambin et al., 2018). This approach aligns with global climate goals and appeals to environmentally conscious consumers, while reducing operational costs and ensuring long-term sustainability (Gao and Souza, 2022, Dauvergne and Lister, 2013).

Green Procurement

Green procurement involves selecting suppliers that adhere to environmental standards, use sustainable raw materials, and minimize waste. Studies indicate that organizations implementing green procurement experience cost savings, enhanced brand reputation, and compliance with environmental regulations (Zhu & Sarkis, 2004).

Green Manufacturing

Green manufacturing emphasizes reducing emissions, waste, and energy consumption. Implementation of cleaner production technologies has been linked to operational efficiency, lower production costs, and improved product quality (Rao & Holt, 2005).

Green Distribution and Logistics

Green logistics focuses on optimizing transportation routes, using energy-efficient vehicles, and reducing packaging waste. Research suggests that firms adopting green logistics strategies can achieve lower fuel costs, reduced carbon footprints, and enhanced supply chain resilience (Srivastava, 2007).

Reverse Logistics and Waste Management

Reverse logistics involves recycling, remanufacturing, and proper disposal of products at the end of their life cycle. Effective reverse logistics has been associated with cost savings, regulatory compliance, and a reduction in environmental impact (Guide & Van Wassenhove, 2009).

Impact of GSCM on Organizational Performance

The impact of GSCM on organizational performance can be classified into three dimensions:

Economic Performance

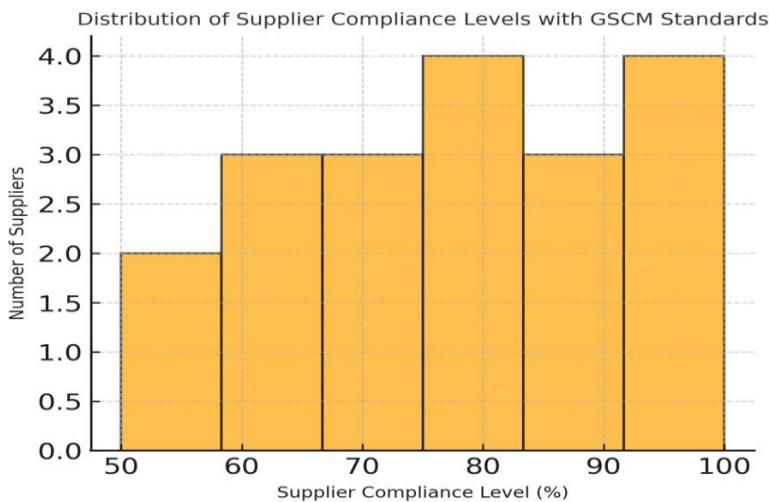
Empirical studies reveal that GSCM practices contribute to cost reduction, increased efficiency, and improved market share. By adopting sustainable practices, firms often realize long-term financial benefits (Zhu et al., 2013).

Environmental Performance

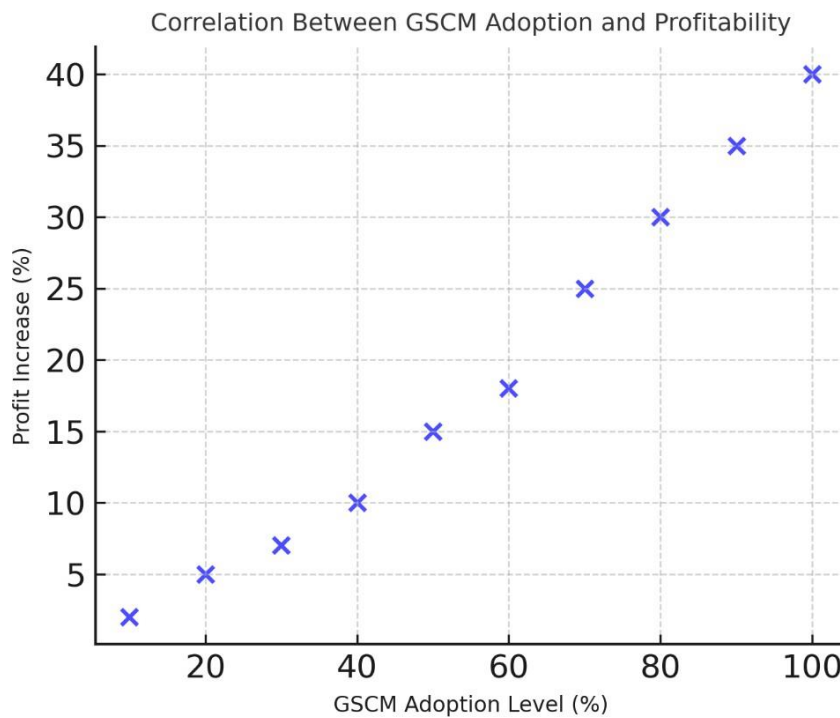
GSCM leads to reduced greenhouse gas emissions, lower energy consumption, and improved waste management. Companies engaging in eco-friendly supply chain practices report better compliance with environmental regulations and improved corporate social responsibility (Chien & Shih, 2007).

Operational Performance

Operational improvements through GSCM include better resource utilization, enhanced supplier relationships, and streamlined production processes. Research highlights that organizations with strong GSCM initiatives tend to experience higher supply chain efficiency and risk mitigation (Green et al., 2012).

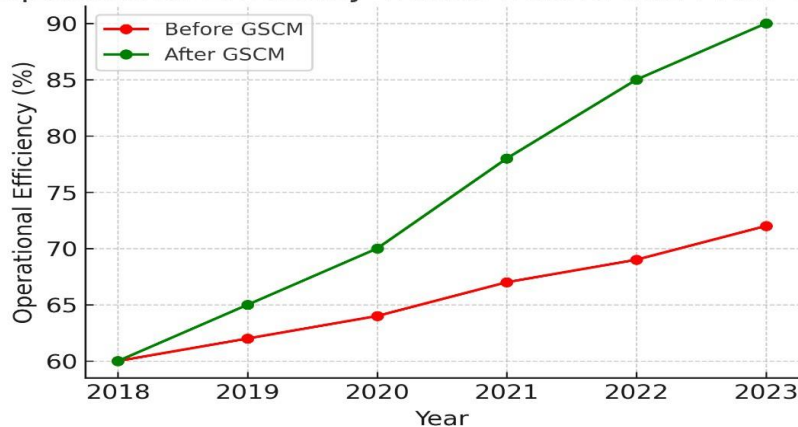


The histogram illustrates the distribution of supplier compliance levels with Green Supply Chain Management (GSCM) standards. The majority of suppliers have compliance levels ranging between 70% and 100%, indicating that most suppliers are actively following green practices. A smaller number of suppliers fall within the 50%-70% range, suggesting room for improvement in sustainability efforts.



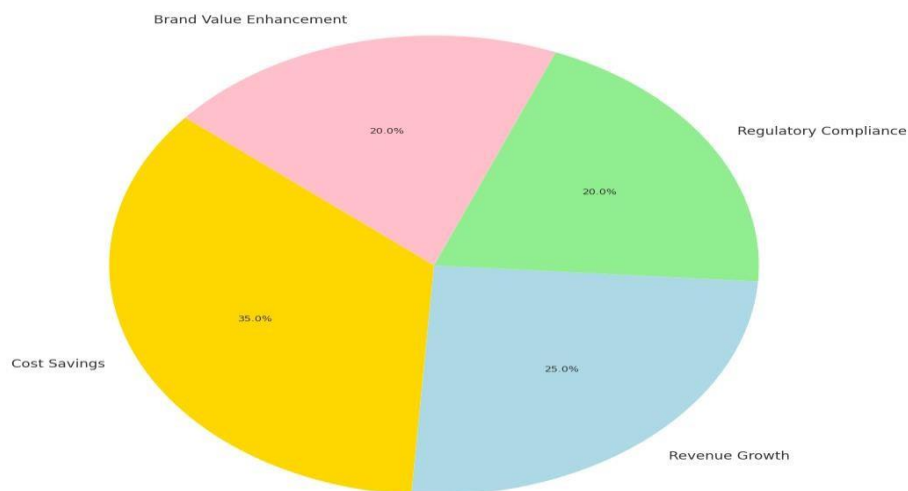
The scatter plot illustrates the correlation between Green Supply Chain Management (GSCM) adoption levels and profitability growth. As GSCM adoption increases, profitability also shows a steady rise. At lower adoption levels (10-30%), the profit increase is minimal, suggesting that initial implementation may require investment and adaptation. However, as adoption levels reach 50% and beyond, there is a more significant rise in profitability, indicating that sustainable practices lead to cost savings, efficiency improvements, and better brand reputation.

Operational Efficiency Trends Before and After GSCM



The line chart illustrates the trends in operational efficiency before and after the implementation of Green Supply Chain Management (GSCM) practices from 2018 to 2023. Initially, before adopting GSCM, operational efficiency showed a slow and steady increase, rising from 60% in 2018 to 72% in 2023. However, after implementing GSCM, efficiency improved at a much faster rate, jumping from 60% in 2018 to 90% in 2023.

Financial Impact Assessment of GSCM



The pie chart illustrates the financial impact of Green Supply Chain Management (GSCM) practices, highlighting key areas such as cost savings, revenue growth, regulatory compliance, and brand value enhancement. Revenue growth, contributing 25%, is another significant factor, as businesses that adopt GSCM practices attract eco-conscious consumers, expand their market share, and often command premium pricing for sustainable products. Regulatory compliance, making up 20% of the financial impact, ensures that organizations meet environmental policies,

helping them avoid penalties and legal costs associated with non-compliance. Additionally, brand value enhancement, also at 20%, plays a crucial role, as companies that prioritize sustainability build stronger reputations, increase customer loyalty, and gain a competitive edge in the market. sustainability.

Challenges and Future Research Directions

Despite the benefits, challenges such as high implementation costs, resistance to change, and a lack of expertise hinder GSCM adoption. Future research should focus on industry-specific case studies, the role of digital technologies in GSCM, and the integration of circular economy principles.

Green Supply Chain Management (GSCM) faces several challenges that hinder its widespread adoption. High initial costs make it difficult for businesses to invest in sustainable technologies and infrastructure. Many suppliers, especially in developing regions, struggle to comply with green standards due to financial constraints or a lack of awareness. Regulatory complexities add another layer of difficulty, as companies operating globally must navigate varying environmental laws. Consumer awareness remains a barrier, as many buyers prioritize cost over sustainability, reducing the market-driven incentives for companies to adopt green practices. Technological barriers further slow progress, as advanced eco-friendly solutions require specialized expertise and resources.

Measuring the financial and operational benefits of GSCM remains a challenge, making it harder for businesses to justify investments. Additionally, resistance to change within organizations, suppliers, and stakeholders delays the transition to sustainable practices.

Future research should focus on developing cost-benefit analysis models to accurately assess the economic advantages of GSCM. Engaging suppliers in sustainability initiatives is crucial, and new frameworks should be explored to encourage compliance and enforce green practices. Policy harmonization is necessary to create unified global standards that simplify regulatory compliance. Understanding consumer behavior and finding ways to promote eco-friendly purchasing decisions can accelerate the demand for green products. Artificial intelligence and big data hold great potential in optimizing green supply chain processes, and further research can help integrate these technologies effectively. The shift from linear supply chains to circular economy models requires extensive study to achieve a zero-waste system. Additionally, new performance measurement tools should be developed to assess the long-term sustainability impact of GSCM on businesses and the environment.

Conclusion

GSCM practices play a crucial role in enhancing economic, environmental, and operational performance. Organizations that adopt sustainable supply chain strategies not only comply with regulations but also gain a competitive edge in the market. Further research is needed to explore innovative solutions and address implementation challenges in various industries.

Greening the supply chain is an industry issue that will only gain importance over the years to come. Continuous time and effort is required to implement and enhance the green capabilities. The current system of operations in the organization Power Soaps Pvt Ltd., Chennai not only in India but around the world, is damaging the environment and soon a day will come when the damages done to our earth will become irreversible. There is a huge pressure on the organization to supply products that are environmentally friendly in their sourcing, production, delivery, usage and disposal. From the myriads of parameters affecting implementation of GSCM, cost of technology and complexity of processes are perceived to be as the major obstacle to implementing Green SCM, which therefore draws attention towards the need for cost effective and easy to implement solutions. A framework needs to be established to create awareness and spread the knowledge regarding GSCM practices showcasing the cost and efficiency benefit for the companies. While the challenges might change but the fundamentals of doing good business will remain the same. The leaders should see the green supply chain management as a core part of the business that can result in cost competitiveness and value creation in longer duration.

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Dr. Anu Antony M.Com (Finance), MBA (Human Resource Management), MA (Business Economics), PGDFT(Finance & Taxation), PGDIB(International Business), Ph. D in Commerce & Pursing Post Doctoral Fellowship in Commerce at Lincoln University Malaysia, is currently working in Kristu Jyoti College of Management & Technology, Changanassery as an Associate Professor in Post Graduate Department of Commerce. She is also accorded Selected Honorary D.Litt by International Agency for Standards and Ratings. She possesses 13 years of teaching experience which includes 15 years of research and one year of industry experience. She is an approved guide for research in Commerce and Management with Lincoln University College, Malaysia and Co-Guide at Bharathidasan University, Tiruchirappali. She has published two text book prescribed for B.Com(Finance and Taxation) and M.Com(Finance and Taxation) Programmes under the Mahatma Gandhi University titled Income Tax I for B.Com Finance and Taxation having the ISBN 978-93-5620-875-9 and Indirect Tax Laws for M.Com Finance and Taxation having the ISBN 978-93-5627-344-3. She has published Seventeen edited books with ISBN titled Emerging Horizons in Finance", "Emerging Trends in HRM", "Contemporary Issues in Business and Management", "Sustainable Business Models for Inclusive Growth", "Emerging Trends in GST", "Emerging Trends in Management", "Emerging Trends in Banking", "Emerging Trends in Marketing", "Emerging Trends in Accounting", "Perspectives on E-Commerce" and Emerging Trends in Business Commerce and Management. Recipients of Indian Patent in the field of Commerce, the title of invention is linked to "Operating performance of housing financial institutions. A Comparative study of Nationalised banks and New Generation Banks" She has also been conferred with prestigious awards such as International Eminent Author & Teaching Excellence Award 2021 by International Institute of Organized Research, National Best Women Faculty Award by Novel Research Academy, Puducherry, Global Faculty Award 2021 by AKS EDUCATION AWARDS, Best Young Researcher Award 2021 by EMG-SSM Trust, Best Researcher Award by Cape Comorin Award & Best Research Paper Award for Paper Entitled A Study on the role of Microfinance Units on the Economic and Social Empowerment of Women. She has also distinguished herself in terms of 12 Editorial Board Members of Various National and International Journals, International Journal of Commerce and Management Research ISSN:2455-1627, International Journal of Finance and Banking Research(IJFBR)USA, the International Journal of Formal Sciences: Current and Future Research Trends, "Journal of Management Research and Analysis(JMRA)" ISSN:2394-2762 etc. Securing Third position in National Level Research Paper Presentation Competition organised by Department of BMS & BAF by Nirmala Memorial Foundation College of Commerce & Science Kandivali, Mumbai. SPOC of NPTEL Local Chapter and Coursera Administrator of Kristu Jyoti College of Management and Technology. She is a well-versed university question paper setter and Scrutiny Board Member for Management(MBA) with APJ Abdul Kalam Technological University, Kerala. She is regularly guiding students for MBA projects in IGNOU, New Delhi and Annamalai University, Tamil Nadu. She is serving as IQAC Co-ordinator and PG Course Co-ordinator at Kristu Jyoti College of Management & Technology, Changanassery and in addition she served as a mentor for the NAAC Accreditation Process. She has attended many national and international conferences, FDP, Workshop, Seminar and also presented many research papers and articles of meritorious nature. She had participated in more than 100 National and International Conferences and 50 Research Paper Presented in National/international Conferences. 25 Research papers published in National /international Peer Reviewed, UGC Care List I & II and Refereed journals with ISSN. She also coordinated National Paper Presentation Competition, National and International Conference, workshop, webinar, Internship, Add on Courses, Career Guidance Programme, organised by the Post Graduate Department of Commerce, Kristu Jyoti College. She possesses excellent Leadership Skills, Academic Credentials, Research Aptitude, Futuristic Vision and Innovative Outlook. All the above mentioned academic, managerial, entrepreneurial, interpersonal, holistic, wide ranging and research oriented skill sets of her always come in handy in terms of taking an institution to the domain of flawless performance. She is undoubtedly a multifaceted personality of immense potentiality.

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