

HARNESSING AI FOR SUSTAINABLE CONSUMER BEHAVIOUR: OPPORTUNITIES FOR ENTREPRENEURS IN BENGALURU

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Review:18/04/2025

Acceptance:30/04/2025

Publication: 16/05/2025

Abstract:

This study explores the potential of Artificial Intelligence (AI) in promoting sustainable consumer behaviour in Bengaluru. Through a survey of 110 participants, the research examines their awareness and usage of AI technologies, as well as their openness to AI-driven eco-friendly solutions. The findings reveal that while AI awareness is widespread, there is significant interest in using AI for sustainability, particularly in areas such as personalized product recommendations, carbon footprint tracking, and sustainability education. The study highlights that 58% of respondents consider sustainability important, and 50% are willing to pay more for eco-friendly products. AI-based tools that offer personalized recommendations or track carbon footprints are especially appealing.

The paper also identifies key opportunities for entrepreneurs, such as creating AI-powered platforms for personalized eco-friendly product suggestions, developing carbon footprint tracking tools, and building AI-driven sustainability marketplaces. Additionally, incentivized sustainability programs and educational platforms powered by AI can motivate consumers toward eco-friendly habits. Despite the promising opportunities, challenges such as data privacy concerns and the need for consumer education remain. The paper concludes by recommending that entrepreneurs collaborate with governments and NGOs to create supportive policies, raise awareness, and ensure transparency in AI's role in sustainability.

Keywords: Artificial Intelligence (AI), Sustainable Consumer Behaviour, Eco-friendly Solutions, Carbon Footprint Tracking, Entrepreneurial Opportunities

Introduction:

The growing concern over environmental sustainability has led to the exploration of innovative solutions to promote eco-friendly consumer behaviour. Artificial Intelligence (AI) presents a unique opportunity to drive sustainable practices, particularly in urban centers like Bengaluru, which is known for its technological advancements. This study investigates the potential of AI to influence consumer behaviour towards sustainability. Through a survey of 110 participants, the research examines their awareness and usage of AI technologies, their attitudes towards eco-friendly products, and their openness to AI-driven sustainability solutions. The findings reveal significant interest in AI-based tools for personalized recommendations, carbon footprint tracking, and sustainability education. The study also identifies key opportunities for entrepreneurs, including the creation of AI-powered platforms that suggest eco-friendly products, tools for tracking carbon footprints, and incentivized sustainability programs. This paper highlights the growing demand for AI solutions in promoting sustainable consumer choices and the entrepreneurial opportunities that arise from this trend.

Research Problem:

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Despite Bengaluru being a hub for technological innovation, the use of AI to encourage sustainable consumer behaviour remains underexplored. This paper investigates the extent to which AI can motivate eco-friendly decisions and how entrepreneurs can leverage this to address sustainability challenges.

Research Objectives:

1. Explore the awareness and usage of AI technologies among Bengaluru consumers.
2. Examine consumer behaviours and eco-friendly practices in Bengaluru.
3. Identify opportunities for entrepreneurs to use AI in promoting sustainable consumer behaviour.

Review of literature:

Smith, J. (2022). Artificial Intelligence and Sustainability: A New Era in Consumer Behaviour. This study examines how AI is transforming consumer behaviour by encouraging eco-friendly choices, such as personalized recommendations and carbon footprint tracking. It discusses the ethical concerns around data privacy and stresses the need for responsible AI design to support sustainability.

Kumar, R., & Bhat, S. (2023). AI-driven Consumer Behaviour in Indian Urban Centers. Focusing on Bengaluru, this paper explores how AI technologies influence consumers' sustainable purchasing decisions. It finds that AI-based solutions for waste management and product recommendations are gaining popularity, though privacy concerns remain a challenge.

Gupta, A., & Sharma, P. (2021). Leveraging AI for Sustainable Business Practices in Emerging Economies. This article discusses how businesses in emerging economies can use AI for eco-friendly practices, such as personalized marketing and reducing carbon footprints, highlighting the importance of policy support.

Patel, R., & Iyer, M. (2023). AI-Driven Consumer Behaviour and Sustainability: An Indian Perspective. The paper explores AI's role in shaping sustainable consumption in India, emphasizing how AI can influence urban consumers' decisions with personalized suggestions and sustainability tips.

Methods of Research:

Survey methodology

This study uses a survey methodology to collect data from 110 participants in Bengaluru. The survey includes 20 questions. It examines awareness and usage of AI technologies, consumer attitudes towards eco-friendly solutions, and sustainability practices. Data was collected through online surveys. Quantitative analysis was performed using frequency distributions, while qualitative analysis focused on open-ended responses to identify common themes. This mixed-methods approach helps in understanding AI's role in promoting sustainable consumer behaviour and entrepreneurial opportunities.

Data Collection and Analysis:

The responses were analysed through quantitative methods, including frequency distribution, and qualitative analysis for open-ended responses.

| Response | Percentage | Number of Respondents |
|---|------------|-----------------------|
| Familiar with AI technologies | 75% | 83 |
| Use AI-powered products | 65% | 72 |
| Consider sustainability important | 58% | 64 |
| Follow eco-friendly practices | 70% | 77 |
| Willing to pay more for eco-friendly products | 50% | 55 |
| Use AI app for sustainable products | 72% | 79 |
| Follow AI recommendations for sustainability | 60% | 66 |
| AI features that encourage sustainable purchases | | |
| - Personalized Recommendations | 45% | 49 |
| - Carbon Footprint Tracking | 30% | 33 |
| - Price Comparison | 25% | 28 |
| Incentives encourage AI use for sustainability | 68% | 75 |
| AI can influence sustainable behaviour | 80% | 88 |

Analysis of Results:

The survey shows that AI awareness is widespread in Bengaluru, with 75% of respondents familiar with AI technologies. A majority (58%) of consumers consider sustainability important in their purchasing decisions. Additionally, 50% are willing to pay more for eco-friendly products, indicating a strong inclination towards sustainability when given the right incentives.

AI-based solutions that personalize product recommendations or track carbon footprints are particularly appealing. The potential for AI to influence consumer behaviour toward sustainability is evident, with 80% of respondents believing that AI can help promote eco-friendly choices.

OPPORTUNITIES FOR ENTREPRENEURS:

Several key opportunities arise from the survey data for entrepreneurs seeking to promote sustainable consumer behaviour using AI:

Personalized AI Product Recommendations: Entrepreneurs can create AI-powered platforms that provide personalized product suggestions based on sustainability criteria (e.g., eco-friendly materials or energy efficiency).

Carbon Footprint Tracking: Developing AI tools that help consumers track the environmental impact of their purchases could be a lucrative venture, as 30% of respondents showed interest in such tools.

AI-Powered Sustainability Marketplaces: Entrepreneurs could build AI-driven online marketplaces that recommend sustainable products based on users' preferences and previous purchases.

Incentivized Sustainability Programs: Reward programs using AI to track sustainable purchasing behaviour could motivate consumers. Offering points, discounts, or other incentives could drive eco-friendly habits.

Educational Platforms on Sustainability: AI-based educational tools could raise awareness about sustainable consumption patterns and guide users toward reducing their environmental footprint.

Waste Reduction and Recycling Solutions: AI applications that help consumers better manage waste and recycling would be beneficial, as they could make recycling more efficient and accessible.

Sustainable Packaging Solutions: Entrepreneurs can innovate in developing smart packaging that encourages sustainable disposal and recycling, using AI to educate consumers.

SUGGESTIONS:

1. Entrepreneurs should invest in campaigns to raise awareness about how AI can help consumers make sustainable choices.
2. Educating consumers on the environmental benefits of AI solutions, such as reducing waste or saving energy, is essential.
3. Partnering with governments and NGOs can create supportive policies and incentives for AI-driven sustainability initiatives.
4. Adding gamified features like points or rewards in sustainability apps can boost user engagement and enjoyment.
5. Transparency in how data is collected and used is vital to building trust for AI-based sustainability tools.
6. Clear communication about AI's role in sustainability can inspire confidence and adoption among consumers.
7. Collaboration and user-focused features will ensure AI becomes a trusted tool for driving sustainability.

Conclusion:

AI has significant potential to foster sustainable consumer behaviour in Bengaluru. The survey indicates a clear interest in using AI to make eco-friendly decisions, especially in areas like personalized recommendations, carbon footprint tracking, and sustainability education. There is a substantial opportunity for entrepreneurs to innovate by creating AI-powered tools and services that guide consumers towards sustainable choices. However, challenges such as trust in AI, privacy concerns, and a lack of awareness remain. Entrepreneurs need to focus on addressing these issues to successfully integrate AI into sustainable consumer behaviour.

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