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A STUDY ON CONSUMER TRUST IN AI-RECOMMENDED PRODUCTS TOWARDS E-COMMERCE PLATFORMS WITH REFERENCE TO FLIPKART

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ABSTRACT

Artificial intelligence (AI) is increasingly used by e-commerce platforms to recommend products based on browsing behaviour, purchase history, product preferences and other signals. These recommendations may help consumers discover relevant products and make shopping more convenient. However, consumer trust can be affected by recommendation accuracy, transparency, the quality of product information, customer reviews and concerns about personal data. This study examines consumer trust in AI-recommended products on e-commerce platforms with particular reference to Flipkart. It considers awareness of recommendations, perceived relevance, trust, factors influencing purchase intention, privacy concerns and preferred improvements. A descriptive research framework and structured questionnaire are used. For demonstrating the required analysis format, the tables in this draft contain an illustrative dataset of 55 responses. These figures are simulated for project preparation and must be replaced with actual questionnaire results before the project is submitted as empirical research. The illustrative pattern suggests that consumers are more likely to engage with recommendations when they appear relevant and are supported by reliable product details and reviews. Clear explanations and accessible privacy controls are proposed as ways to strengthen trust.

Keywords: Artificial intelligence, consumer trust, product recommendations, e-commerce, Flipkart, purchase intention, privacy, transparency.

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I. INTRODUCTION

E-commerce has changed how consumers search for, compare and purchase products. Online platforms offer large product assortments, customer reviews, price comparisons and personalised shopping experiences. Because the number of available products can be overwhelming, platforms increasingly use AI-based recommendation systems to present items that may match a consumer's interests.

AI-recommended products may appear on a platform's homepage, product page, search results or cart-related sections. Recommendations can save time and help consumers discover products they might otherwise miss. At the same time, consumers may question why a product is being recommended, whether the recommendation is genuinely relevant, and how their personal information is being used.

Trust is important because consumers often cannot physically inspect products before purchasing them online. They rely on product descriptions, seller information, ratings, reviews, return policies and the perceived reliability of the platform. If recommendations seem inaccurate, overly promotional or intrusive, consumers may ignore them. This study focuses on consumer trust in AI-recommended products, using Flipkart as the reference platform.

1.1 BACKGROUND OFTHE STUDY

Recommendation systems are designed to rank or suggest items that may be relevant to individual

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users. Their usefulness depends on the quality of available information, the way relevance is estimated and how recommendations are presented. In online shopping, a recommendation can influence product discovery and purchase consideration, but it does not guarantee that a consumer will trust or buy the suggested item.

Consumers may assess recommendations through several cues: whether the product matches their needs, whether its price is reasonable, whether reviews appear credible, whether product details are complete, and whether the platformhandlesdataresponsibly.Transparencycanalsomatter;ashortexplanationsuchas‘basedonyour viewed items’ may help consumers understand why a product appears. The present study examines these trust-related factors in the context of Flipkart.

1.2 STATEMENT OF THEPROBLEM

Although AI-based product recommendations can make online shopping more personalised, consumers may not automatically trust the products shown to them. Irrelevant suggestions, uncertainty about the recommendation process, doubts about product information and concerns over personal-data use may reduce confidence. The problem addressed by this study is to understand how consumers perceive AI-recommended products on e-commerce platforms, what factors shape their trust, and how trust relates to their willingness to click, consider or purchase recommended products.

1.3 NEED OF THE STUDY

The study issue because consumer trust can affect the acceptance and practical value of AI-based recommendations. Understanding consumers’ concerns can help e-commerce platforms improve recommendation relevance, explain why items are suggested, display trustworthy product information and provide meaningful privacy controls. The study may also help marketers understand that personalisation should support consumer choice rather than replace clear information and informed decision-making.

1.4 SCOPE OF THE STUDY

The study focuses on consumers’ awareness of AI-recommended products, their online-shopping and Flipkart usage patterns, perceived relevance, trust in recommendations, purchase consideration, trust factors, privacy concerns and improvement preferences. Flipkart is the primary reference platform, while some questions consider consumers’ wider e-commerce experience. The illustrative analysis is based on 55 simulated responses and is not evidence of actual consumer behaviour.

1.5 OBJECTIVES OF THE STUDY

- To study the demographic profile and online shopping habits of respondents.
- To examine respondents’ awareness and experience of AI-recommended products on Flipkart.
- To assess consumer trust in the relevance and usefulness of AI recommendations.
- To identify the factors that influence trust and purchase intention towards recommended products.
- To understand privacy and transparency concerns associated with AI recommendations.
- To suggest measures that may improve consumer trust in AI-recommended products.

1.6 HYPOTHESESOFTHESTUDY

H_{01}:There is no association between perceived relevance of AI recommendations and consumers’ trust in those recommendations.

H_{02}: There is no association between trust in AI recommendations and willingness to click or consider a recommended product.

1.7 RESEARCHMETHODOLOGY

Research design:

Descriptive research design is proposed to summarise respondents’ awareness, perceptions and reported experiences.

Sources of data:

The proposed primary source is a structured questionnaire. Secondary sources include academic literature and relevant publications on recommendation systems, trust, privacy and e-commerce.

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Sampling method:
Conveniencesamplingmaybeusedifrespondentsarere cruitedbasedonaccessibility; confirm the actual method used.
Sample size:
The sample size of this topic is 55 respondents.
Area of study:
Consumers using Flipkart and other e-commerce platforms. In the Coimbatore City
Tools for data collection:
Structured questionnaire with closed-ended questions.
Tools for data analysis:
Frequency and percentage analysis, tables and descriptive interpretation. Inferential testing requires raw respondent-level data.
Period of study:
To be completed within 3 Months of duration.

1.8 LIMITATIONSOFTHESTUDY

- The illustrative tables are simulated and should not be represented as actual survey findings.
- Consumer perceptions may differ by age, product category, shopping experience and familiarity with AI.
- The study focuses on reported opinions and does not directly measure the technical performance of Flipkart's recommendation systems.
- Convenience sampling, if used, may limit the general is ability of results.
- Actualconclusionsmustbebasedonverifiedrespon sescollectedthroughthequestionnaire.

II. REVIEWOFLITERATURE

Sasikala, Shobhana and Kamaladevi (2026) studied AI-driven personalised product recommendations among 160 Indian online shoppers. The study found that recommendation transparency and personalisation increase consumer trust and purchase intention.

Mohanasoundari and Mithraa (2026) examined consumer trust in AI-powered online shopping platforms using responses from 100 shoppers. The study focused on consumer awareness and trust in AI recommendations, chatbots and virtual assistants.

Thapa et al. (2026) investigated AI awareness, personalisation and explain ability across Indian e-commerce platforms, including Flipkart. The findings showed that effective personalisation and clear explanations help build consumer trust.

Kumar and Arora (2026) analysed 189,000 reviews from Indian shopping applications, including Flipkart. The study found that the perceived usefulness of AI-related features is important for customer loyalty.

Goutam et al. (2026) examined algorithmic recommendations among 442 online shoppers in India. The study found that personalisation, transparency and consistency influence perceived accuracy and consumer decision confidence.

2.1RESEARCH GAP

Existing literature addresses recommendation systems, trust in automation and online privacy. This project brings these themes together in a consumer-focused study with reference to Flipkart. It examines perceived relevance, trust, product-information cues, purchase consideration, privacy concerns and transparency preferences in one questionnaire framework. The 55-response tables in this draft are illustrative; actual survey data are needed to establish findings for the selected respondent group.

III. THEORETICAL FRAMEWORK:

The Technology Acceptance Model (TAM) was developed by Fred Davis in 1989. It explains how perceived usefulness and perceived ease of use influence the acceptance of technology. In the context of this study, Flipkart customers are more likely to accept AI-recommended products when they find the recommendations useful, relevant to their preferences, and easy to understand. These factors may influence their willingness to use AI recommendations while shopping online.
Trust Theory explains the importance of reliability, honesty, accuracy, and transparency in building consumer confidence. In e-commerce, customers are more likely to trust AI-recommended products when they believe the recommendations are genuine and suitable for their needs. On Flipkart, the accuracy of product suggestions, customer reviews, product information, and transparency in recommendations may influence consumers' trust and purchase decisions. Privacy concerns and doubts about the reliability of AI recommendations may reduce this trust.

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The Theory of Planned Behaviour (TPB) was developed by Icek Ajzen in 1991. It explains how attitudes, subjective norms, and perceived behavioural control influence a person's intention to perform a particular behaviour. In this study, customers' attitudes towards AI recommendations, opinions shared by friends and family, and confidence in online shopping may influence their intention to purchase AI-recommended products on Flipkart. These theories together provide a foundation for understanding how usefulness, trust, and consumer attitudes influence the acceptance of AI-recommended products and online purchase intention.

IV. DATA ANALYSIS AND INTERPRETATION

The following frequency tables contain simulated/illustrative responses, with each question's response categories summing to exactly 55 respondents (100%). They are included to demonstrate how the analysis section can be presented. Replace them with the actual counts collected from 55 respondents before submitting the project as a completed empirical study.

Table1.Demographic Profile of Respondents

Variable	Response category	No.of respondents	Percentage
Gender	Male	30	54.5%
	Female	25	45.5%
Age	Below20years	9	16.4%
	20–25 years	26	47.3%
	26–35 years	14	25.5%
	Above35years	6	10.9%
Education	Higher Secondary/ Diploma	9	16.4%
	Undergraduate	28	50.9%
	Postgraduate	15	27.3%
	Other	3	5.5%
Occupation	Student	17	30.9%
	Employed	21	38.2%
	Self-employed	9	16.4%
	Other	8	14.5%

Interpretation:
The illustrative profile includes 30 male and 25 female respondents. The largest age group is 20–25 years, and undergraduates account for the largest education group. Employed respondents form the largest occupation group.

Table2.Online Shopping and Flipkart Usage

Variable	Response category	No. of respondents	Percentage
Online shopping frequency	Weekly or more	15	27.3%
	2–3timesa month	22	40.0%
	Once a month	12	21.8%
	Rarely	6	10.9%
Flipkart usage	Frequently	20	36.4%
	Sometimes	26	47.3%
	Rarely	8	14.5%
	Never	1	1.8%
Product category purchased most	Electronics	13	23.6%

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	Fashion	16	29.1%
	Home and kitchen	10	18.2%
	Beauty/personal care	8	14.5%
	Other	8	14.5%

Interpretation:
The illustrative responses show that 40.0% shop online 2–3 times a month and 47.3% use Flipkart sometimes. Fashion is the most frequently selected product category (29.1%), followed by electronics (23.6%).

Table3.Awareness and Experience of AI Recommendations

Variable	Response category	No. of respondents	Percentage
Noticed recommended products	Often	17	30.9%
	Sometimes	27	49.1%
	Rarely	9	16.4%
	Never	2	3.6%
Where recommendations are noticed	Flipkart home/product pages	24	43.6%
	Search/results pages	11	20.0%
	Cart/check out or similar items	9	16.4%
	Other online platforms	11	20.0%
Perceived relevance	Very relevant	10	18.2%
	Some what relevant	28	50.9%
	Neutral	11	20.0%
	Not very relevant	5	9.1%
	Not relevant at all	1	1.8%

Interpretation:
Most illustrative respondents notice recommended products often or sometimes (80.0% combined). Flipkart pages are the most commonly reported place to notice recommendations (43.6%). A combined 69.1% describe recommendations as very or somewhat relevant.

Table4.Consumer Trust in AI-Recommended Products

Variable	Response category	No. of respondents	Percentage
Trust in recommendations	Strongly trust	7	12.7%
	Some what trust	24	43.6%
	Neutral	14	25.5%
	Some what distrust	8	14.5%
	Strongly distrust	2	3.6%
Belief recommendations match interests	Strongly agree	9	16.4%
	Agree	25	45.5%
	Neutral	13	23.6%
	Disagree	7	12.7%
	Strongly disagree	1	1.8%
Trust in product	Very high	8	14.5%

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information shown			
	High	23	41.8%
	Moderate	16	29.1%
	Low	7	12.7%
	Very low	1	1.8%

Interpretation:
In the illustrative distribution, 56.3% strongly or somewhat trust recommendations. A combined 61.9% agree or strongly agree that recommendations match their interests. Accurate and trustworthy product information remains important for confidence.

Table5.Factors Affecting Trust and Purchase Intention

Variable	Response category	No. of respondents	Percentage
Most important trust factor	Customer ratings and reviews	19	34.5%
	Accurate product details	14	25.5%
	Price and offers	9	16.4%
	Brand/seller reputation	8	14.5%
	Privacy and data use	5	9.1%
Response to recommendation	More likely to click/view	23	41.8%
	May click if relevant	22	40.0%
	No effect	7	12.7%
	Less likely to click	3	5.5%
Purchase due to recommendation	Purchased before	20	36.4%
	Considered but did not buy	23	41.8%
	Never	12	21.8%

Interpretation:
Customer ratings and reviews are the most selected trust factor (34.5%), followed by accurate product details (25.5%). 81.8% say a recommendation makes them more likely to click/view or may lead them to do so if it seems relevant. However, consideration does not always result in purchase.

Table6.Privacy, Transparency and Improvement Preferences

Variable	Response category	No. of respondents	Percentage
Concern about personal data use	Very concerned	13	23.6%
	Some what concerned	23	41.8%
	Neutral	11	20.0%
	Slightly concerned	6	10.9%
	Not concerned	2	3.6%
Need explanation for recommendations	Strongly agree	21	38.2%
	Agree	24	43.6%
	Neutral	7	12.7%
	Disagree	3	5.5%

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Most useful improvement	More relevant recommendations	15	27.3%
	Clear explanation of why shown	13	23.6%
	Better review and rating visibility	11	20.0%
	Stronger privacy controls	10	18.2%
	Easy option to hide recommendations	6	10.9%

A combined 65.4% are very or somewhat concerned about personal-data use. 81.8% agree or strongly agree that platforms should explain why products are recommended. Respondents favour greater relevance, clearer explanations, better review visibility and stronger privacy controls.

V. MAJORFINDINGS

- In the illustrative sample, the 20–25 years age group is the largest, and undergraduates form the largest education category.
- 80.0% notice AI-recommended products often or sometimes.
- 69.1% rate recommendations as very or somewhat relevant.
- 56.3% report that they strongly or somewhat trust AI recommendations.
- Customer ratings/reviews (34.5%) and accurate product details (25.5%) are the most selected trust factors.
- 81.8% say they are more likely to view a recommendation or may view it when it seems relevant.
- 65.4% express some degree of concern about personal-data use.
- 81.8% agree or strongly agree that platforms should explain why products are recommended.
- Morerelevantrecommendationsandclearerexplanationsarethemostselectedimprovements.
- These findings describe only the simulated example distribution and must be recalculated after actual data collection.

VI. SUGGESTIONS

- Improve recommendation relevance by considering users' current interests and allowing them to correct or refine preferences.
- Explain recommendations in simple language, such as indicating whether an item Is suggested based on viewed products or similar items.
- Display complete and accurate product descriptions, seller details, prices, delivery information and return policies.
- Make customer reviews and ratings easy to find and encourage genuine, useful reviews.
- Provide accessible privacy controls and clear information about how personal data issued for personalisation.
- Allow users to hide, dismiss or reduce unwanted recommendations.
- Avoid making recommendations appear more reliable than the available evidence supports; consumers should be able to compare alternatives independently.
- Evaluatere commendation quality using relevance, user feedback and consumer satisfaction rather than clicks alone.

VII. CONCLUSION

AI-recommended products can make e-commerce shopping more convenient by helping consumers discover products that may match their needs. However, trust depends on more than personalisational one. Consumers may also consider the relevance of suggestions, the accuracy of product information, the credibility of reviews, transparency and privacy. With reference to Flipkart, this project provides a framework for examining these issues through a structuredquestionnaire.Theillustrative 55-response tables demonstrate the expected analysis format but are not actual research findings. After collecting and verifying responses from 55 participants, thefrequency counts, percentages, interpretations and conclusions should be updated to reflect the real data. E-commerce platforms may

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strengthen trust by making recommendations more relevant, explaining why products appear, providing reliable information and giving users meaningful control over personalisation.

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