IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, June 2026
Impact Factor: 8.2

Impact of Customer Data Analytics on Personalised Marketing Effectiveness and Consumer Purchase Behaviour in the E-Commerce Sector

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Abstract: *Online shopping in India has grown at a pace that few industries can match. As more people shop on platforms like Amazon, Flipkart, and Myntra, these companies have started using customer data to personalise every part of the shopping experience. This paper looks at how this data-driven personalisation affects what people buy, how much they spend, and how loyal they stay to a platform. A structured survey of 120 active Indian online shoppers was used to collect primary data. The data was then studied using mean scores, standard deviation, and correlation analysis. The results show that personalised marketing has a strong and clear effect on consumer purchase behaviour. Personalised loyalty discounts scored the highest approval at a mean of 4.14, while transparency about data use scored the highest of all at 4.20. A Pearson correlation of 0.84 was found between how much consumers engaged with personalised formats and their actual buying behaviour. The paper also finds that 75 percent of consumers feel uncomfortable when personalisation goes too far, pointing to a clear privacy boundary that companies must respect.*

Keywords: Customer Data Analytics, Personalised Marketing, Consumer Purchase Behaviour, E-Commerce India, Privacy and Trust

I. INTRODUCTION

1.1 The Growth of E-Commerce in India

Over the last twenty years, the way people shop has changed completely. A task that once required travelling to a physical store, browsing shelves, and waiting in queues can now be completed in under a minute from a mobile phone. This change has been powered by the rise of e-commerce - the buying and selling of goods through the internet.

India's e-commerce story is among the most dramatic in the world. A combination of affordable smartphones, cheap mobile internet through networks like Jio, the rise of digital payments through UPI, and a young population comfortable with technology created the perfect conditions for online shopping to grow explosively. Today, platforms like Amazon India, Flipkart, Myntra, Nykaa, and Meesho serve hundreds of millions of Indian consumers every year.

India's e-commerce market is currently valued at over USD 70 billion and is expected to reach USD 350 billion by 2030. That would place India among the top three e-commerce markets in the world. But with this rapid growth came fierce competition. Dozens of platforms now fight for the same customers. When a shopper can switch from one platform to another with a single tap, companies have been forced to ask a very basic but important question - how do we make customers choose us, stay with us, and keep coming back?

The answer, for most major platforms, has been data.

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1.2 The Role of Customer Data

Every action a person takes on an e-commerce platform generates data. When someone searches for a product, clicks on a listing, reads reviews, adds an item to a wishlist, abandons a cart, or completes a purchase - all of it is recorded. Over weeks and months of shopping activity, a platform builds a detailed picture of who each customer is: what they like, what they can afford, which brands they trust, and what kinds of messages make them act.

This information is called customer data, and the process of organising and studying it to make better decisions is called customer data analytics. In e-commerce, this analytics process has one primary goal - to understand each customer well enough to give them a more relevant, more personal experience.

1.3 What Personalised Marketing Means

Personalised marketing means showing each customer content, products, and offers that are specifically designed for that individual based on what the platform knows about them. It is the direct opposite of mass marketing, where the same advertisement is shown to millions of people regardless of whether it is relevant to any of them.

In practice, personalised marketing takes several forms. Product recommendation engines show items related to what a person has browsed or bought before. Personalised emails remind shoppers about products they left in their cart. Push notifications alert users to price drops on wishlisted items. Retargeted advertisements follow users across social media and search engines, showing them the exact products they were looking at on a shopping platform. Personalised homepages reorganise the layout of a platform to match each user's preferences. Loyalty discounts are calculated based on each individual's purchase history and offered accordingly.

All of these formats share one foundation - they are powered by customer data analytics.

1.4 Why India Needs Its Own Research

Most published research on personalised marketing has been conducted in Western markets, particularly the United States and the United Kingdom. Indian consumers behave differently. They are highly price sensitive - even a small discount of fifty rupees can change a buying decision. They are deeply influenced by family and social circles. They are loyal to platforms that serve them well, but quick to leave for a better deal. And India's enormous regional diversity means that what works for a consumer in Delhi may not work for one in Chennai or Kolkata.

These unique characteristics make India-specific research on this topic essential. This paper directly addresses that need by surveying 120 active Indian online shoppers and studying their personal experiences with personalised marketing across all major formats.

II. REVIEW OF EXISTING RESEARCH

Before conducting new research, it is important to understand what others have already found. This section reviews key studies published between 2022 and 2026 on customer data analytics, personalised marketing, and consumer behaviour in e-commerce.

On recommendation engines: Sharma and Patel (2022) found that personalised product recommendation systems contributed significantly to platform revenue, and that consumers who engaged with recommendations had higher average order values than those who did not. This established early that personalised recommendations are not just a convenience feature but a genuine revenue driver.

On email marketing: Mehta, Dubey, and Kaur (2022) studied cart abandonment recovery through personalised emails. They found that emails showing the exact product left in the cart, combined with a small customised discount, were dramatically more effective at recovery than generic promotional emails. Timing mattered - emails sent within one to three hours of abandonment had the highest recovery rates.

On push notifications: Banerjee and Roy (2022) found that personalised push notifications - particularly those informing users of price drops on wishlisted products - had significantly higher click-through rates than mass broadcast

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notifications. Consumers who received relevant notifications were more likely to open the app and complete a purchase in the same session.

On AI-powered loyalty: Gupta, Verma, and Sinha (2023) studied how AI-driven personalisation built long-term loyalty on platforms like Myntra and Nykaa. They found that the better the personalisation, the more consumers used the platform, which generated more data, which further improved personalisation - a cycle they called the "loyalty loop."

On privacy: Bose, Roy, and Joshi (2024) found that more than half of Indian consumers felt uncomfortable when they realised the extent of their data being collected and analysed. Consumers who felt their privacy had been violated showed lower trust, bought less frequently, and were more likely to switch to competitors.

On transparency: Pillai and Nambiar (2024) showed that consumers who were clearly informed about data collection practices and still found personalisation helpful were the most loyal and highest-spending group. Consumers who discovered tracking unexpectedly showed sharp drops in trust.

On cross-channel personalisation: Nair, Desai, and Chatterjee (2025) found that consumers receiving coordinated personalised messages across multiple channels - website, app, email, and social media - completed purchases more often and made decisions faster than those reached through only one channel.

On future direction: Chatterjee and Lahiri (2026) noted a gap between the quality of personalisation companies believed they were delivering and what consumers actually experienced. They recommended that platforms focus on the quality of insights from data, not just the volume of data collected.

These studies collectively show that personalised marketing is effective, that Indian consumers appreciate it when done well, and that privacy and transparency are not optional concerns - they are central to making personalisation work commercially.

III. RESEARCH METHODOLOGY

3.1 Research Design

This paper follows a descriptive mixed-methods research design. Descriptive research observes and describes a situation as it exists without manipulating variables. The goal here is to describe how customer data-driven personalised marketing affects consumer behaviour in Indian e-commerce - not to run an experiment, but to measure and explain what is already happening in the real world.

3.2 Research Objectives

Objective 1: To identify personalised marketing formats used in Indian e-commerce and measure their impact on consumer awareness, engagement, and purchase consideration.

Objective 2: To analyse the relationship between personalised marketing effectiveness and actual consumer purchase behaviour on Indian e-commerce platforms.

3.3 Research Hypotheses

$H_0$1: Personalised marketing formats do not have a significant impact on consumer awareness, engagement, and purchase consideration.

$H_1$1: Personalised marketing formats have a significant impact on consumer awareness, engagement, and purchase consideration.

$H_0$2: There is no significant relationship between personalised marketing effectiveness and actual consumer purchase behaviour.

$H_1$2: There is a significant positive relationship between personalised marketing effectiveness and actual consumer purchase behaviour.

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3.4 Data Collection

Primary data was collected from 120 active Indian e-commerce consumers through a structured 20-question questionnaire distributed via Google Forms on WhatsApp, LinkedIn, and email during April and May 2026. All respondents confirmed they shop online at least once a month. The questionnaire used a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) for all opinion-based questions.

Secondary data was drawn from published reports by NASSCOM and Deloitte, academic journal articles from 2021 to 2026, platform case studies from Amazon India, Flipkart, Myntra, and Nykaa, and the Digital Personal Data Protection Act 2023 published by India's Ministry of Electronics and Information Technology.

3.5 Sampling

The target population was active Indian online shoppers aged 18 to 45 from urban and semi-urban areas. Convenience sampling was used for primary data; respondents were easily reachable through digital channels. The sample size of 120 is sufficient for percentage analysis, mean comparison, and correlation analysis as used in this study.

3.6 Analysis Techniques

All data were analysed in Microsoft Excel using:

- **Percentage analysis** - to show the distribution of responses for each question
- **Mean score analysis** - to calculate the average level of agreement across all 120 respondents
- **Standard deviation** - to measure how consistent or varied the responses were
- **Pearson correlation** - to test the relationship between personalisation engagement scores and purchase behaviour scores

IV. DATA ANALYSIS AND RESULTS

4.1 Profile of Respondents

Table 1: Age Group of Respondents

Age Group	Number of Respondents	Percentage
18 to 24 years	42	35.0%
25 to 32 years	38	31.7%
33 to 40 years	24	20.0%
41 to 45 years	12	10.0%
Above 45 years	4	3.3%
Total	**120**	**100%**

Interpretation: Two thirds of respondents - 66.7 percent - belong to the 18 to 32 age group. This reflects the well-established fact that younger consumers are the most active online shoppers in India. They shop more frequently, are more exposed to personalised marketing, and are the most comfortable with digital technology. The sample age distribution is appropriate and representative for a study focused on active Indian online shoppers.

Table 2: Gender Distribution

Gender	Number of Respondents	Percentage
Male	68	56.7%
Female	48	40.0%
Prefer not to say	4	3.3%
Total	**120**	**100%**

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Interpretation: The sample has a reasonable gender balance with a slight majority of male respondents at 56.7 percent. Both male and female consumers are present in meaningful numbers, which means the findings reflect experiences across genders and are not skewed toward one group.

Table 3: Online Shopping Frequency Per Month

Shopping Frequency	Number of Respondents	Percentage
Less than once a month	8	6.7%
Once a month	22	18.3%
2 to 3 times a month	54	45.0%
More than 3 times a month	36	30.0%
Total	**120**	**100%**

Interpretation: A very strong 75 percent of respondents shop online at least 2 to 3 times per month. This confirms that the sample is composed of genuinely active and frequent shoppers with regular exposure to personalised marketing. The findings of this study therefore reflect the experiences of people who interact with personalised marketing communications consistently, not occasionally.

Table 4: Most Frequently Used E-Commerce Platform

Platform	Number of Respondents	Percentage
Amazon	46	38.3%
Flipkart	32	26.7%
Myntra	18	15.0%
Nykaa	10	8.3%
Meesho	9	7.5%
Others	5	4.2%
Total	**120**	**100%**

Interpretation: Amazon and Flipkart together account for 65 percent of the sample, reflecting their dominance in the Indian market. The presence of fashion platform Myntra at 15 percent and beauty platform Nykaa at 8.3 percent adds diversity to the data, capturing personalisation experiences across different e-commerce categories.

Table 5: Consumer Awareness of Personalised Recommendations

Awareness Level	Number of Respondents	Percentage
Yes, very often	58	48.3%
Yes, sometimes	38	31.7%
I think so but am not sure	18	15.0%
No, never noticed	6	5.0%
Total	**120**	**100%**

Interpretation: An overwhelming 80 percent of respondents have consciously noticed personalised recommendations on shopping platforms, with nearly half noticing them very often. Only 5 percent say they have never noticed them. This confirms that personalised marketing is visible, recognised, and widely experienced by Indian consumers - which means their survey responses reflect genuine personal experience, not assumptions.

4.2 Personalised Marketing Formats and Consumer Engagement (Section B)

The scale used for all questions in this section: 1 = Strongly Disagree, 5 = Strongly Agree.
Mean score guide: 3.41 to 4.20 = High Agreement; 4.21 to 5.00 = Very High Agreement.

Table 6: Product Recommendations (Q6)

Response	Value	Respondents	Percentage
Strongly Disagree	1	4	3.3%
Disagree	2	6	5.0%

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Neutral	3	14	11.7%
Agree	4	52	43.3%
Strongly Agree	5	44	36.7%
Mean Score			**4.05**
Standard Deviation			**0.97**

Interpretation: 80 percent of respondents agreed or strongly agreed that product recommendations based on browsing and purchase history helped them find products they were genuinely interested in. A mean of 4.05 places this firmly in the high agreement range. The standard deviation of 0.97 shows good consistency across the sample. Only 8.3 percent disagreed, suggesting a small minority finds recommendations unhelpful or poorly targeted. This finding confirms that recommendation engines are among the most appreciated personalisation tools in Indian e-commerce.

Table 7: Personalised Emails for Cart Recovery (Q7)

Response	Value	Respondents	Percentage
Strongly Disagree	1	6	5.0%
Disagree	2	10	8.3%
Neutral	3	22	18.3%
Agree	4	50	41.7%
Strongly Agree	5	32	26.7%
Mean Score			**3.77**
Standard Deviation			**1.06**

Interpretation: 68.4 percent of respondents agreed that personalised cart recovery emails brought them back to complete an abandoned purchase. A mean of 3.77 indicates high agreement, though the standard deviation of 1.06 shows slightly more variation compared to other formats. The 18.3 percent neutral responses likely represent consumers who tend not to open marketing emails at all. Despite this, a clear majority confirms that personalised emails work effectively for cart recovery in the Indian context.

Table 8: Personalised Push Notifications (Q8)

Response	Value	Respondents	Percentage
Strongly Disagree	1	5	4.2%
Disagree	2	8	6.6%
Neutral	3	18	15.0%
Agree	4	54	45.0%
Strongly Agree	5	35	29.2%
Mean Score			**3.88**
Standard Deviation			**1.02**

Interpretation: 74.2 percent of respondents agreed that personalised push notifications effectively brought their attention back to products they were considering. With a mean of 3.88, push notifications rank among the stronger formats in this section. Their key advantage is that they appear directly on the phone screen without requiring the user to open the app first, making them one of the most immediate re-engagement tools available. The standard deviation of 1.02 reflects reasonable consistency.

Table 9: Personalised Homepage Experience (Q9)

Response	Value	Respondents	Percentage
Strongly Disagree	1	3	2.5%
Disagree	2	5	4.2%
Neutral	3	16	13.3%
Agree	4	55	45.8%
Strongly Agree	5	41	34.2%

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Mean Score			**4.05**
Standard Deviation			**0.93**

Interpretation: 80 percent of respondents agreed that their e-commerce app homepage felt tailored to their interests, showing brands, deals, and categories that matched their shopping history. A mean of 4.05 and a low standard deviation of 0.93 indicate both high appreciation and strong consensus. Personalised homepages are especially effective for consumers who visit a platform without a specific product in mind, helping them discover items they want before they even think to search for them.

Table 10: Retargeted Advertisements (Q10)

Response	Value	Respondents	Percentage
Strongly Disagree	1	8	6.7%
Disagree	2	14	11.7%
Neutral	3	24	20.0%
Agree	4	46	38.3%
Strongly Agree	5	28	23.3%
Mean Score			**3.60**
Standard Deviation			**1.14**

Interpretation: Retargeted advertisements scored the lowest mean in this section at 3.60, and had the highest standard deviation at 1.14 - indicating the most divided consumer opinions of any format tested. While 61.6 percent agreed that retargeted ads helped remind them of products they were considering, 18.4 percent actively disagreed. This suggests that a significant minority of consumers find cross-platform retargeting intrusive when advertisements follow them across Instagram, YouTube, and Google throughout the day. This format requires the most careful calibration to avoid pushing consumers away.

Table 11: Personalised Loyalty Discounts and Rewards (Q11)

Response	Value	Respondents	Percentage
Strongly Disagree	1	3	2.5%
Disagree	2	5	4.2%
Neutral	3	12	10.0%
Agree	4	52	43.3%
Strongly Agree	5	48	40.0%
Mean Score			**4.14**
Standard Deviation			**0.93**

Interpretation: Personalised loyalty discounts and rewards scored the highest mean in Section B at 4.14, with 83.3 percent of respondents agreeing they felt valued and more willing to shop when receiving such personalised offers. The low standard deviation of 0.93 shows exceptionally strong agreement across the sample. This finding directly reflects Indian consumers' well-known sensitivity to price. When a discount is personalised - calculated specifically for that individual based on their own shopping history - it feels like recognition, not just a mass promotion. This emotional dimension of personalised discounts is a key insight for e-commerce marketers.

Table 12: Personalised Search Results (Q12)

Response	Value	Respondents	Percentage
Strongly Disagree	1	4	3.3%
Disagree	2	6	5.0%
Neutral	3	14	11.7%
Agree	4	50	41.7%
Strongly Agree	5	46	38.3%
Mean Score			**4.07**

DOI: 10.48175/IJARSCT-36312

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Standard Deviation			**0.98**

Interpretation: 80 percent of respondents found personalised search results more useful than generic ones, with a mean of 4.07. Since search is the most fundamental action a shopper takes on a platform, personalising it - by showing products that match a user's previous preferences and budget range first - makes the entire shopping experience faster and more satisfying. Only 8.3 percent disagreed, indicating that search personalisation is broadly welcomed by Indian consumers.

Table 13: Platform Loyalty Through Personalisation (Q13)

Response	Value	Respondents	Percentage
Strongly Disagree	1	5	4.2%
Disagree	2	8	6.6%
Neutral	3	20	16.7%
Agree	4	48	40.0%
Strongly Agree	5	39	32.5%
Mean Score			**3.90**
Standard Deviation			**1.03**

Interpretation: 72.5 percent of respondents agreed that the more they use a platform, the more personalised and relevant the experience becomes, making them less likely to switch to a competitor. A mean of 3.90 confirms the existence of a loyalty loop - continued usage generates more data, which powers better personalisation, which deepens loyalty. This is commercially significant because it means that every improvement in personalisation quality directly reduces the platform's risk of losing customers to competitors.

Table 14: Summary of All Section B Mean Scores

Question	Personalisation Format	Mean	Std Dev	Agreement
Q6	Product Recommendations	4.05	0.97	High
Q7	Personalised Emails	3.77	1.06	High
Q8	Push Notifications	3.88	1.02	High
Q9	Personalised Homepage	4.05	0.93	High
Q10	Retargeted Ads	3.60	1.14	High
Q11	Loyalty Discounts	**4.14**	0.93	High
Q12	Personalised Search	4.07	0.98	High
Q13	Platform Loyalty	3.90	1.03	High
	Overall Average	**3.93**	**1.01**	**High**

Interpretation: Every single personalisation format tested scored in the high agreement range. The overall Section B average of 3.93 confirms that Indian e-commerce consumers have a strongly positive experience with data-driven personalised marketing across all formats. The top three formats are personalised loyalty discounts (4.14), personalised search results (4.07), and personalised homepages and product recommendations (both at 4.05). The lowest - retargeted advertisements at 3.60 - remains in the high agreement zone but shows the most consumer-divided response. This summary directly supports Hypothesis $H_1$1.

4.3 Personalised Marketing and Consumer Purchase Behaviour (Section C)

Table 15: Unplanned Purchases Triggered by Recommendations (Q14)

Response	Value	Respondents	Percentage
Strongly Disagree	1	5	4.2%
Disagree	2	8	6.6%
Neutral	3	16	13.3%
Agree	4	54	45.0%

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Strongly Agree	5	37	30.8%
Mean Score			**3.92**
Standard Deviation			**1.02**

Interpretation: 75.8 percent - three out of every four respondents - agreed that they had made an unplanned purchase because a personalised recommendation appeared at the right moment and matched their interest. A mean of 3.92 places this in high agreement territory. This is one of the most commercially significant findings of the entire study. Unplanned purchases directly increase platform revenue without any additional effort by the consumer to seek out a product. The fact that this has happened to three out of four surveyed consumers is strong evidence of personalisation's power over purchasing impulse.

Table 16: Cart Recovery Through Personalised Reminders (Q15)

Response	Value	Respondents	Percentage
Strongly Disagree	1	6	5.0%
Disagree	2	10	8.3%
Neutral	3	20	16.7%
Agree	4	52	43.3%
Strongly Agree	5	32	26.7%
Mean Score			**3.79**
Standard Deviation			**1.07**

Interpretation: 70 percent of respondents confirmed they had returned to complete an abandoned purchase after receiving a personalised email or push notification reminder. A mean of 3.79 demonstrates high agreement. Cart abandonment is one of the costliest problems in e-commerce - millions of transactions are started but never completed every day. This finding confirms that well-designed personalised reminders, particularly those offering a small discount on the exact product left behind, are a practical and effective solution to this problem.

Table 17: Increase in Monthly Spending Due to Personalisation (Q16)

Response	Value	Respondents	Percentage
Strongly Disagree	1	7	5.8%
Disagree	2	12	10.0%
Neutral	3	24	20.0%
Agree	4	48	40.0%
Strongly Agree	5	29	24.2%
Mean Score			**3.67**
Standard Deviation			**1.10**

Interpretation: 64.2 percent agreed that personalised marketing had measurably increased their monthly spending on e-commerce platforms. The mean of 3.67 is the lowest in Section C but still sits in the high agreement range. The higher neutral response at 20 percent likely reflects that many consumers have never experienced a non-personalised version of their platform, making direct comparison difficult. Nevertheless, the clear majority reporting higher spending confirms a positive link between personalisation quality and consumer spending levels.

Table 18: Discomfort from Overly Precise Personalisation (Q17)

Response	Value	Respondents	Percentage
Strongly Disagree	1	4	3.3%
Disagree	2	8	6.7%
Neutral	3	18	15.0%
Agree	4	50	41.7%
Strongly Agree	5	40	33.3%
Mean Score			**3.95**

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Standard Deviation			**1.01**

Interpretation: 75 percent of respondents agreed they feel uncomfortable when personalisation becomes too precise - such as when advertisements appear for products they discussed in conversation but never searched. A mean of 3.95 is among the higher scores in Section C. This finding reveals what researchers call the "privacy paradox" - consumers enjoy relevant personalisation but feel surveillance-like discomfort when it crosses a perceived boundary. That discomfort directly reduces trust and buying willingness, meaning that overly aggressive personalisation can actually damage the commercial outcomes it is designed to improve. This is a critical finding for every e-commerce platform.

Table 19: Willingness to Share Data with Transparent Policies (Q18)

Response	Value	Respondents	Percentage
Strongly Disagree	1	3	2.5%
Disagree	2	4	3.3%
Neutral	3	10	8.3%
Agree	4	52	43.3%
Strongly Agree	5	51	42.5%
Mean Score			**4.20**
Standard Deviation			**0.89**

Interpretation: This question produced the highest mean score in the entire study at 4.20, and the lowest standard deviation in Section C at 0.89 - indicating both very high agreement and exceptionally strong consensus. 85.8 percent of respondents agreed they would be more willing to share their data if the platform clearly explained what it collects and how it benefits their shopping experience. The message this sends to e-commerce companies is powerful and actionable - transparency about data use is not just an ethical obligation, it is the single most effective way to increase consumer cooperation with personalisation programs. When people understand and trust how their data is used, they willingly participate, which makes the personalisation better, which creates more value for both the consumer and the business.

Table 20: New Product Discovery Through Personalisation (Q19)

Response	Value	Respondents	Percentage
Strongly Disagree	1	4	3.3%
Disagree	2	7	5.8%
Neutral	3	18	15.0%
Agree	4	53	44.2%
Strongly Agree	5	38	31.7%
Mean Score			**3.95**
Standard Deviation			**0.99**

Interpretation: 75.9 percent of respondents agreed that personalised marketing had introduced them to new product categories or brands they had never previously considered, leading to actual new purchases. A mean of 3.95 confirms that personalisation is not only effective at selling consumers what they already know they want - it actively expands their awareness into new product areas. This is commercially valuable because it increases the average basket size and introduces consumers to product categories where they may develop long-term buying habits.

Table 21: Overall Role of Personalised Marketing in Purchase Decisions (Q20)

Response	Value	Respondents	Percentage
Strongly Disagree	1	3	2.5%
Disagree	2	5	4.2%
Neutral	3	12	10.0%
Agree	4	54	45.0%
Strongly Agree	5	46	38.3%

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Mean Score			**4.13**
Standard Deviation			**0.93**

Interpretation: 83.3 percent of respondents agreed that customer data analytics-driven personalised marketing plays a major and growing role in shaping their purchase decisions on e-commerce platforms. A mean of 4.13 and a low standard deviation of 0.93 reflect broad, consistent acknowledgment of personalisation's influence. This final question serves as a powerful overall validation of the central argument of this research - that personalised marketing is now a commercially critical force in Indian e-commerce that directly shapes what people buy and how they buy it.

Table 22: Summary of All Section C Mean Scores

Question	Purchase Behaviour Dimension	Mean	Std Dev	Agreement
Q14	Unplanned Purchases	3.92	1.02	High
Q15	Cart Recovery	3.79	1.07	High
Q16	Increased Monthly Spending	3.67	1.10	High
Q17	Privacy Discomfort	3.95	1.01	High
Q18	Data Transparency Willingness	**4.20**	0.89	Very High
Q19	New Product Discovery	3.95	0.99	High
Q20	Overall Role in Decisions	4.13	0.93	High
	Overall Average	**3.94**	**1.00**	**High**

Interpretation: All seven purchase behaviour questions scored in the high agreement range, with the Section C overall average at 3.94. The single item crossing into very high agreement - transparency about data use at 4.20 - stands out as the most powerful finding in the entire dataset. The low score for increased monthly spending at 3.67, while still high, reflects genuine difficulty consumers face in comparing a personalised experience against a non-personalised baseline. The privacy discomfort score of 3.95 confirms that privacy concerns are real, significant, and must be actively managed by e-commerce platforms.

4.4 Correlation Analysis and Hypothesis Testing

To test Hypothesis $H_1 2$, Pearson correlation analysis was performed in Microsoft Excel. The average engagement score across all Section B questions and the average purchase behaviour score across all Section C questions were calculated for each respondent. The CORREL function was then applied.

Table 23: Correlation Between Section B and Section C Scores

Parameter	Value
Section B Average Mean Score	3.93
Section C Average Mean Score	3.94
Pearson Correlation Coefficient (r)	**0.84**
Strength of Relationship	Strong Positive
Statistical Significance	Significant

Interpretation: A Pearson correlation coefficient of 0.84 represents a strong positive relationship in social science research. This result means that as consumers report more positive engagement with personalised marketing formats, they also consistently report stronger purchase behaviour outcomes - including more unplanned purchases, higher cart recovery rates, increased monthly spending, and broader product discovery. This finding directly confirms $H_1 2$ and rejects $H_0 2$.

Table 24: Hypothesis Testing Summary

Hypothesis	Statement	Result
$H_0 1$	Personalised marketing does not significantly impact awareness, engagement, and purchase consideration	**Rejected**
$H_1 1$	Personalised marketing significantly impacts awareness, engagement, and purchase	**Accepted**

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 2, June 2026 Impact Factor: 8.2

	consideration	
$H_0 2$	No significant relationship between personalisation effectiveness and purchase behaviour	**Rejected**
$H_1 2$	Significant positive relationship between personalisation effectiveness and purchase behaviour	**Accepted**

V. KEY FINDINGS

The analysis produces several findings worth highlighting clearly:

- **Young consumers lead e-commerce activity.** Two thirds of respondents are aged 18 to 32, confirming that this age group is the primary target audience for personalised marketing in Indian e-commerce.
- **Personalised loyalty discounts are the most effective format.** With a mean of 4.14 and 83.3 percent agreement, loyalty rewards are the format Indian consumers respond to most strongly - directly reflecting their sensitivity to price.
- **Personalised search results and homepages are close behind.** With means of 4.07 and 4.05 respectively, these "core experience" personalisation tools are highly valued because they make the basic act of shopping faster and more enjoyable.
- **Three out of four consumers have made unplanned purchases due to personalisation.** This is direct commercial evidence that personalised recommendations generate incremental revenue.
- **Retargeted advertising is the most divisive format.** With the lowest mean at 3.60 and highest standard deviation at 1.14, cross-platform retargeting is effective for some but feels intrusive to a significant minority.
- **Privacy discomfort is strong and real.** 75 percent feel uncomfortable when personalisation becomes too precise. This discomfort reduces trust and buying intent - making privacy management essential for commercial success.
- **Transparency about data use is the most powerful lever in the entire study.** At a mean of 4.20, this is the highest scoring item across all 20 questions. 85.8 percent of consumers say they will willingly share data when platforms are honest and clear about how it is used.
- **The correlation between personalisation engagement and purchase behaviour is 0.84.** This is a strong positive relationship, confirming that better personalisation leads directly to more buying.

VI. DISCUSSION

The findings of this study align strongly with existing research while also adding new primary evidence from the direct voices of Indian consumers.

The strong performance of personalised loyalty discounts is consistent with what Chatterjee and Bose (2023) found - that consumers who receive personalised discounts feel individually recognised rather than anonymously promoted to, and that this emotional response translates directly into higher purchase frequency and larger basket sizes.

The cart recovery finding - 70 percent returned to complete an abandoned purchase after receiving a personalised reminder - directly supports Mehta, Dubey, and Kaur (2022), who found similar recovery effectiveness for emails sent within a short window of abandonment.

The loyalty loop finding - that more platform use leads to better personalisation, which in turn creates stronger loyalty - confirms the pattern identified by Gupta, Verma, and Sinha (2023) in their study of AI-powered personalisation on Myntra and Nykaa.

The privacy finding - that 75 percent feel uncomfortable with overly precise personalisation - reinforces Bose, Roy, and Joshi (2024), who found that more than half of Indian consumers became uncomfortable when they discovered the extent of data being collected about them.

The transparency finding is the most powerful practical implication to emerge from this study and directly validates Pillai and Nambiar (2024), who showed that consumers who were honestly informed about data practices before experiencing personalisation were consistently the most loyal and highest-spending group.

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One area where this study goes beyond existing research is in comparing all major personalisation formats simultaneously using primary consumer data - a gap identified in the literature review that no previous single study had addressed comprehensively.

VII. CONCLUSIONS

Personalised marketing driven by customer data analytics has a clear and strong positive effect on Indian e-commerce consumers. Every personalisation format tested scored in the high agreement range. The overall Section B mean of 3.93 and the acceptance of $H_1 1$ confirm this firmly.

Personalisation directly drives purchase behaviour. An overall Section C mean of 3.94 and a Pearson correlation of 0.84 confirm that engagement with personalised marketing translates into real buying outcomes - $H_1 2$ is accepted.

Personalised loyalty discounts are the most commercially powerful format. For a price-sensitive market like India, offering discounts that feel individually calculated is the personalisation format that creates the strongest positive response.

Transparency is the foundation of everything. The highest score in the entire study - 4.20 for willingness to share data when platforms are honest about how they use it - tells companies that honesty and clarity about data practices directly unlocks consumer cooperation. Without trust, all other personalisation efforts are at risk.

There is a clear privacy boundary that must not be crossed. 75 percent of consumers feel uncomfortable when personalisation becomes surveillance-like. When that boundary is crossed, trust breaks down and purchase behaviour declines - undermining the very commercial outcomes that personalisation is supposed to deliver.

Retargeted advertising needs the most careful redesign. Its low mean and high variation suggest that the current approach of following consumers across multiple platforms without limits is damaging the experience for a meaningful segment of users.

The Indian e-commerce personalisation market is mature and commercially critical. With 83.3 percent of consumers acknowledging personalisation's growing role in their buying decisions, this is no longer an optional capability. It is a core business function that directly determines long-term revenue, loyalty, and competitive advantage.

VIII. RECOMMENDATIONS

For e-commerce companies and marketers:

- Build data-driven loyalty reward systems that calculate personalised discounts based on each individual's purchase history, not flat mass offers.
- Adopt simple, clear, consumer-friendly privacy notices written in plain language that explain what data is collected and how it helps the shopper.
- Invest in improving homepage and search personalisation quality since these are the most frequently used parts of any platform.
- Use push notifications sparingly and only when there is a genuinely relevant reason - quality over volume.
- Set clear frequency and time limits on retargeted advertising, and give consumers easy opt-out options.
- Develop segment-specific strategies - young consumers need different personalisation approaches than older or first-time shoppers.

For data analytics teams:

- Build real-time personalisation capabilities that can detect and respond to high purchase-intent signals within a single browsing session.
- Ensure full compliance with India's Digital Personal Data Protection Act 2023 - treat ethical data practices as a business advantage, not a legal inconvenience.

For policymakers:

- Invest in consumer awareness campaigns about data rights under the DPDP Act 2023.

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Volume 6, Issue 2, June 2026
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- Establish clear industry standards for acceptable data use in personalised marketing to create a level competitive playing field.

IX. LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

This study has certain limitations. The sample of 120 respondents, while sufficient for this analysis, limits the extent to which findings can be generalised to all Indian online shoppers. Convenience sampling means the sample may overrepresent digitally active urban consumers. The study is also cross-sectional - it captures consumer attitudes and behaviour at one point in time rather than tracking changes over months or years.

Future research could extend this study by using a larger sample of 500 or more respondents and including rural consumers and those above 45 years. More advanced statistical tools such as regression analysis could separate the specific contribution of each individual personalisation format to buying behaviour. A longitudinal study tracking the same group of consumers over 12 to 24 months would show how personalisation quality and consumer trust evolve together over time. Future work could also specifically study the impact of generative AI-powered personalisation - such as AI-written product descriptions and AI shopping assistants - on consumer decisions, an area that is growing rapidly but where primary consumer research is still very limited.

REFERENCES

1. Banerjee, P., & Roy, D. (2022). Impact of personalised push notifications on consumer engagement in mobile e-commerce applications in India. *Asian Journal of Mobile Commerce and Consumer Behaviour, 5*(3), 88–104.
2. Bose, K., Roy, P., & Joshi, M. (2024). Consumer privacy concerns, data collection anxiety, and the boundaries of personalized marketing effectiveness in Indian e-commerce. *Journal of Consumer Data Privacy and Personalized Marketing, 7*(2), 118–135.
3. Chatterjee, R., & Lahiri, D. (2026). State of personalized marketing in Indian e-commerce - current gaps, future directions, and the role of consumer feedback. *International Journal of E-Commerce Strategy and Consumer Intelligence, 6*(1), 18–36.
4. Chatterjee, S., & Bose, K. (2023). Personalized discount offers, loyalty programs, and consumer purchase frequency in Indian e-commerce. *Indian Journal of Retail Analytics and Consumer Economics, 12*(3), 101–117.
5. Deloitte. (2024). *Digital consumer trends in India: Personalization, data, and the future of e-commerce.* Deloitte Insights India.
6. Gupta, N., Verma, T., & Sinha, P. (2023). AI-powered personalization and long-term consumer loyalty in Indian e-commerce. *Asian Journal of Data-Driven Marketing and Consumer Studies, 6*(1), 95–112.
7. Iyer, K., & Raghavan, P. (2024). Real-time personalization and purchase conversion rates in Indian e-commerce platforms. *Journal of Real-Time Analytics and E-Commerce Performance, 3*(2), 39–55.
8. Kulkarni, M., & Deshpande, A. (2025). Generation Z consumers, privacy awareness, and personalized marketing preferences in Indian e-commerce. *Journal of Gen Z Consumer Behavior and Digital Retail, 1*(2), 28–44.
9. Mehta, R., Dubey, A., & Kaur, M. (2022). Personalised email marketing, cart abandonment recovery, and consumer purchase behaviour on Indian e-commerce platforms. *Indian Journal of Digital Consumer Analytics and Marketing, 9*(2), 71–88.

IJARSCT
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International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
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Impact Factor: 8.2

10. Ministry of Electronics and Information Technology, Government of India. (2023). *Digital Personal Data Protection Act 2023*. Government of India.
11. Nair, S., & Subramaniam, T. (2022). Social media data integration and cross-platform personalized marketing in Indian e-commerce. *Journal of Digital Marketing and Social Commerce, 7*(2), 44–60.
12. Nair, V., Desai, P., & Chatterjee, R. (2025). Cross-channel personalization and the purchase decision journey in Indian e-commerce. *International Journal of Personalized Marketing Analytics and Consumer Psychology, 5*(1), 23–41.
13. NASSCOM. (2024). *India e-commerce analytics and digital marketing trends report 2024.* National Association of Software and Service Companies.
14. Pillai, S., & Nambiar, V. (2024). Consumer awareness of data collection and its effect on personalized marketing response in Indian e-commerce. *Journal of Consumer Awareness and Digital Marketing Ethics, 5*(2), 60–76.
15. Rao, K., & Venkatesh, N. (2025). Personalized marketing quality and consumer lifetime value in Indian e-commerce. *Journal of Customer Value Analytics and E-Commerce Strategy, 8*(1), 33–49.
16. Saxena, A., & Chandra, R. (2023). Personalised homepage experiences and consumer browsing behaviour on Indian e-commerce platforms. *Journal of Consumer Experience and Digital Retail, 4*(2), 67–83.
17. Sharma, R., & Patel, K. (2022). Role of data analytics in personalised product recommendation systems in Indian e-commerce. *Journal of E-Commerce Analytics and Consumer Behaviour, 11*(2), 33–49.
18. Sharma, R., & Bajaj, A. (2024). Personalised marketing during Indian shopping festivals and consumer purchase behaviour. *Journal of Seasonal Commerce and Marketing Analytics, 3*(1), 44–60.
19. Tiwari, S., & Bhatt, P. (2025). Customer data analytics, marketing efficiency, and return on investment in Indian e-commerce. *Journal of Marketing Analytics and E-Commerce ROI, 7*(2), 55–71.