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Fast Fashion, Social Commerce & AI Personalization: Impact of AI-Powered Personalization on Consumer Purchase Intention in E-commerce

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Abstract

Fast fashion and social commerce have converged into one of the defining forces in global retail. A survey of 124 Indian online shoppers — predominantly female (56%), aged 18–34 (65%) — reveals that while AI-powered recommendations are widely noticed (81% of respondents), consumer trust remains deeply divided. Globally, social commerce is on track to generate $919 billion in 2026; the fast-fashion market is valued at $260 billion; and McKinsey estimates that generative AI could add $150–$275 billion to the fashion industry within five years. The central tension explored in this paper is how platforms can harness AI personalization to drive purchase intent without triggering the privacy anxieties that erode consumer trust. Findings show that personalized discounts outperform product recommendations in generating purchase intent (61% positive response), and that the 26% of consumers who feel surveilled represent a material trust deficit that will cap AI-driven conversion if left unaddressed.

Keywords: AI Personalization, Consumer Trust, Fast Fashion, India, Social Commerce

1. Introduction

The global fashion e-commerce landscape has been fundamentally reshaped by two interlocking revolutions: the commoditization of trend cycles through fast fashion, and the emergence of social platforms as end-to-end retail environments. Fast fashion, once defined by eight-season models, now operates across more than 52 micro-seasons per year. Platforms like Shein upload approximately 1,000 new products daily, harnessing algorithms to detect and respond to social media sentiment in near real-time [5].

Simultaneously, social commerce has moved well beyond product discovery. In 2026, shoppers expect to browse, evaluate, and purchase without leaving TikTok, Instagram, or Facebook [7]. For example, TikTok's shoppable videos now directly lead to checkout, illustrating how frictionless in-app shopping accelerates consumer desire and compresses the gap between inspiration and transaction.

In India specifically, these forces are amplified by a young, mobile-first population and a fashion e-commerce market projected to grow at a CAGR of 24.2% through 2032 [20]. The platforms dominating this space — Meesho, Myntra, Ajio, Nykaa, Flipkart, and Amazon India — are all investing heavily in AI-driven personalization, social shopping features, and creator-led content commerce. This focus on

innovation should inspire the audience about AI's potential to transform the industry responsibly, fostering optimism for future growth.

2. Background and Context

The global social commerce market is projected to generate over $919 billion in 2026, growing to $1.1 trillion by 2029, with fashion and lifestyle as the highest-performing categories [7]. Microtrends — short-lived viral fashion moments born on TikTok, such as 'quiet luxury' and the 'clean girl aesthetic' — now shape multi-channel discovery journeys, feeding back into marketplaces and brand websites even in markets where fewer than 20% of shoppers begin their journeys on social media.

Artificial intelligence has become the backbone of personalization infrastructure across major fashion platforms. McKinsey estimates that generative AI could add $150–$275 billion to the fashion industry within five years, primarily through enhanced product discovery, dynamic pricing, and supply chain optimization [2]. Despite reliance on AI tools, about 36% of US shoppers report they do not plan to use AI at all, and only one in four trust AI to purchase on their behalf, highlighting the need for transparency to build consumer confidence.

India's regulatory environment is adding a new dimension. The Digital Personal Data Protection (DPDP) Act represents the country's first comprehensive framework governing how AI systems handle consumer data, explain decisions, and avoid algorithmic bias. From 2025 onwards, platforms must adopt ethical AI practices as a core operational function rather than an afterthought.

$260B Global fast fashion market value, 2026	**$919B** Social commerce revenue projected for 2026	**24.2%** India fashion e-commerce CAGR through 2032	**6.19%** Global fast fashion CAGR through 2035

3. Methodology

This study draws on a primary survey dataset of 124 Indian e-commerce respondents collected in January 2026. The survey aimed to understand demographic profiles, platform preferences, AI personalization awareness, emotional responses, and purchase behavior influenced by AI recommendations. Targeting active online fashion shoppers aged 18–45 in urban and semi-urban Indian markets, the data provides insights into consumer perceptions and behaviors relevant to AI-driven fashion retail strategies.

The Questionnaire comprised 12 structured questions using Likert, multiple-choice, and frequency-based response formats.

Q1. Age Group

Q2. Gender

Q3. How often do you shop online?

Q4. Which e-commerce platforms do you use most?

Q5. Have you noticed personalized product recommendations while shopping online?

Q6. Personalized product recommendations help me find products easily.

Q7. Personalized discounts and offers increase my interest in buying products.

Q8. Because of personalization, I am more likely to buy again from the same platform.

Q9. Personalized recommendations influence my purchase decision.

Q10. How do you feel when an e-commerce website shows products that match your interests without you searching for them?

Q11. Would you recommend a website to friends if it gives very accurate personalized recommendations?

Q12. Would you buy a product recommended by AI even if you were not planning to buy it before?

Key variables measured included: (a) awareness of AI-driven product recommendations (Q5), (b) emotional response to personalized content (Q10), (c) influence of AI on purchase decisions (Q9), (d) frequency of unplanned AI-driven purchases (Q12), (e) impact of personalized discounts on purchase intent (Q7), and (f) platform loyalty scores (Q8, scale 1–5). Secondary data from McKinsey, Shopify, Firework, and ScienceDirect were used to contextualize the primary findings within global market dynamics.

4. Primary Dataset Findings

4.1 Demographics and Shopping Behavior

The survey sample skews strongly toward younger, digitally native consumers. As shown in Figures 1–3, 65% of respondents fall in the 18–34 age bracket, with a female majority of 56%, aligning with industry data showing women dominate fashion e-commerce spending globally [8]. Shopping frequency data indicates that 65% of respondents shop 'Often' or 'Very Often' online — reflecting the behavioral success of platforms in creating repeat-purchase habits through personalization and discount cycles.

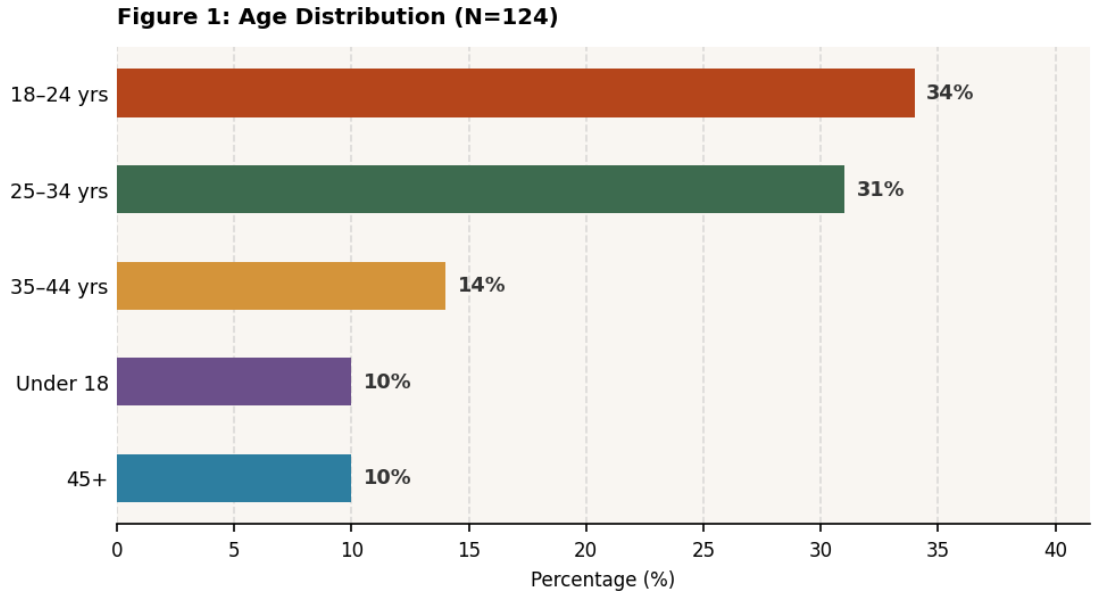

Figure 1: Age Distribution of Respondents (N=124)

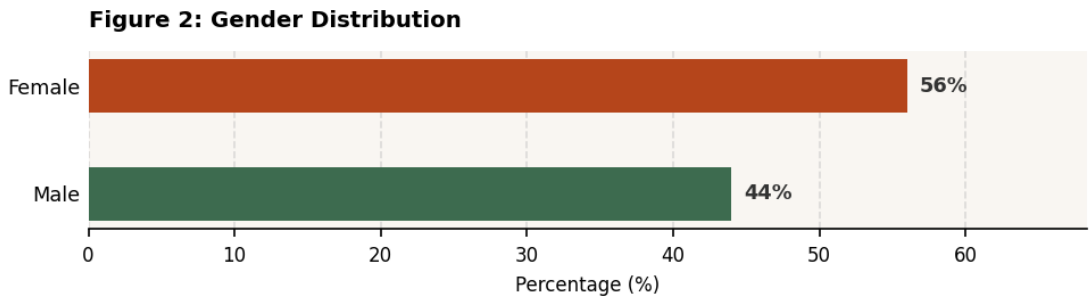

Figure 2: Gender Distribution of Respondents

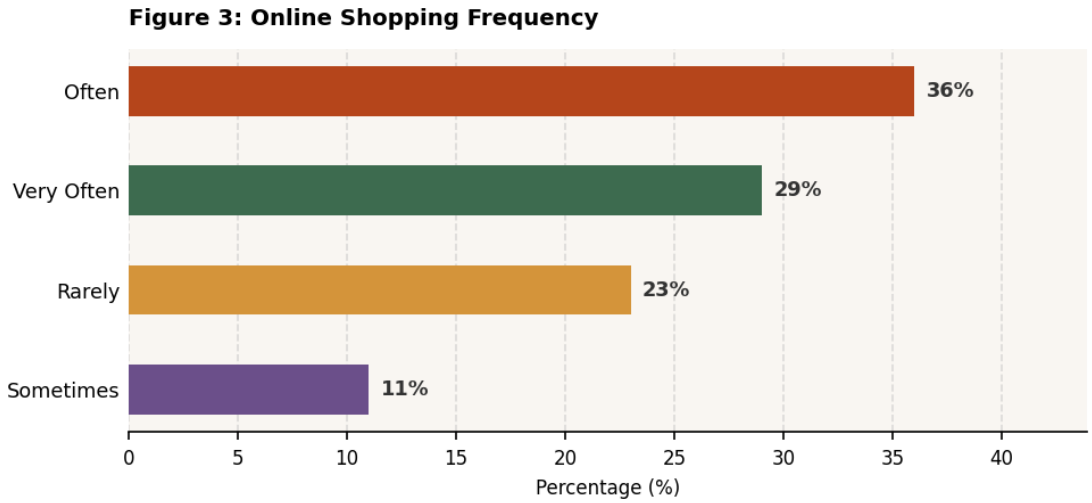

Figure 3: Online Shopping Frequency

4.2 Platform Preferences

Figure 4 presents respondents' platform choices, revealing a fragmented market with multiple specialized players rather than a single giant. Meesho emerged as the top-ranked platform (32%), significant given its positioning as a social commerce pioneer designed around WhatsApp-based reselling and ultra-affordable pricing for Tier 2 and Tier 3 city consumers [19]. Its lead over more established players such as Amazon (22%) and Flipkart (26%) suggests that social commerce mechanics — peer sharing, conversational discovery — resonate deeply with this demographic.

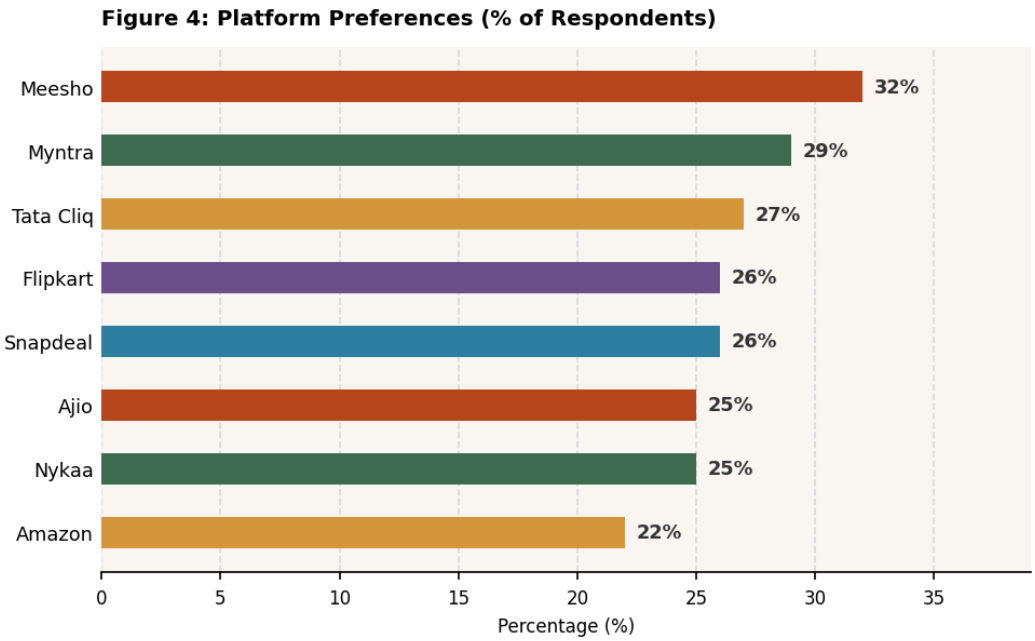

Figure 4: Platform Preferences (% of Respondents)

4.3 AI Personalization: Awareness versus Trust

While 81% of respondents reported noticing AI-driven personalized recommendations (Figure 5), awareness does not translate linearly into positive sentiment. The emotional response data (Q10, Figure 6) reveals a strikingly balanced four-way split: 29% are curious but cautious, 26% feel their privacy is being invaded, 23% feel excited, and 22% are neutral. This finding is consistent with academic research showing that AI personalization raises serious concerns around data collection transparency and algorithmic bias [15][16]. The largest group — those who are curious but cautious — represent the crucial persuadable middle.

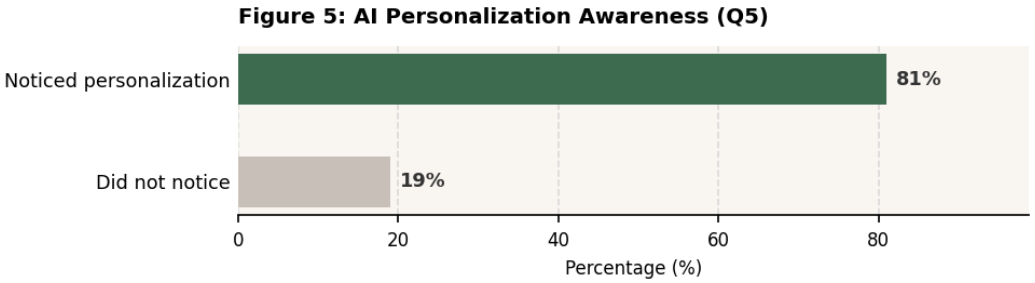

Figure 5: AI Personalization Awareness — Q5 (N=124)

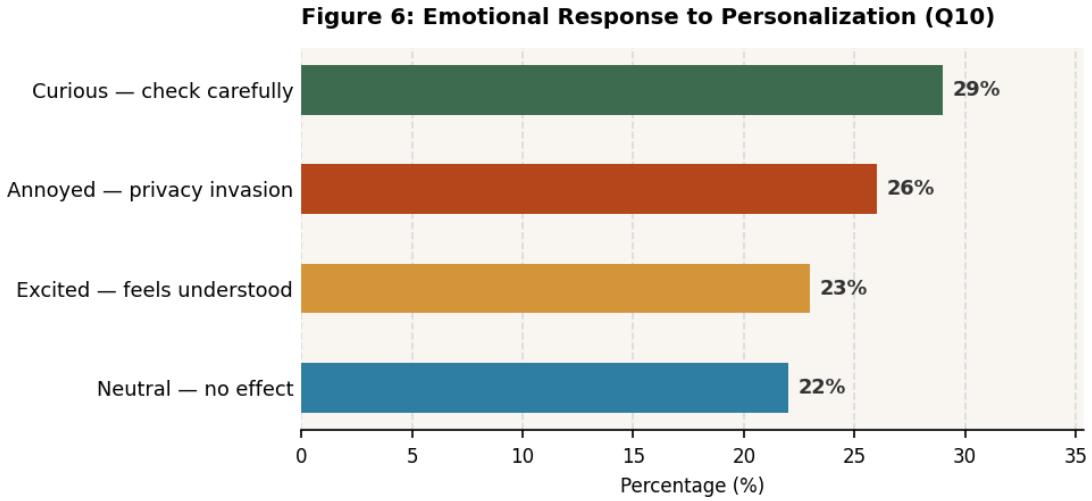

Figure 6: Emotional Response to Personalization — Q10

4.4 Purchase Influence and Impulse Behavior

Figures 7 and 8 reveal the dual nature of AI-driven purchasing. While 28% of respondents usually buy AI-recommended products and 28% sometimes do, 26% never buy them — indicating a divided response to algorithmic influence. Regarding unplanned purchases (Q12), 65% sometimes or often purchase AI-recommended items they did not plan to buy, aligning with global data showing that 40% of e-commerce apparel purchases are impulse-driven [2]. The fast fashion model is specifically engineered to exploit this impulse window through frequent new arrivals, personalized alerts, and limited-time offers.

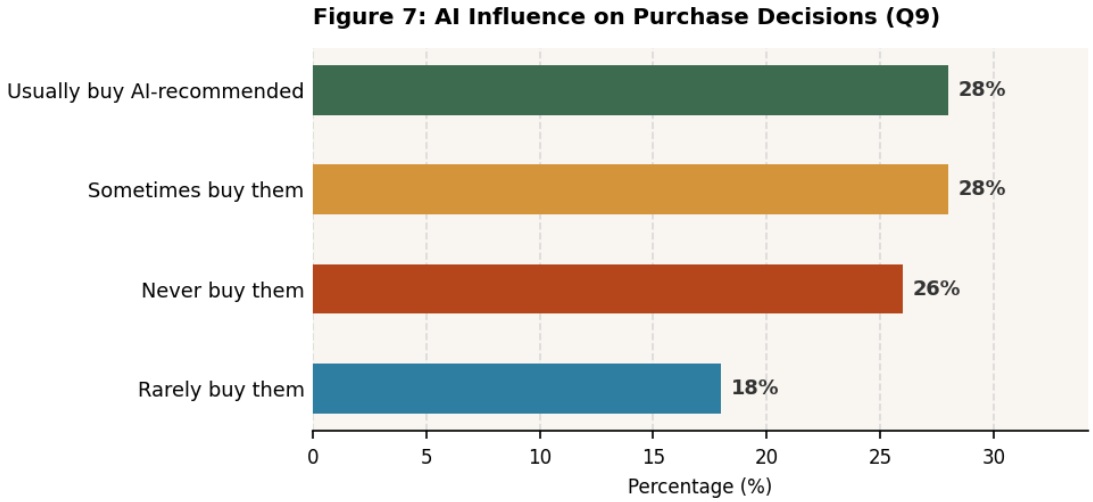

Figure 7: AI Influence on Purchase Decisions — Q9

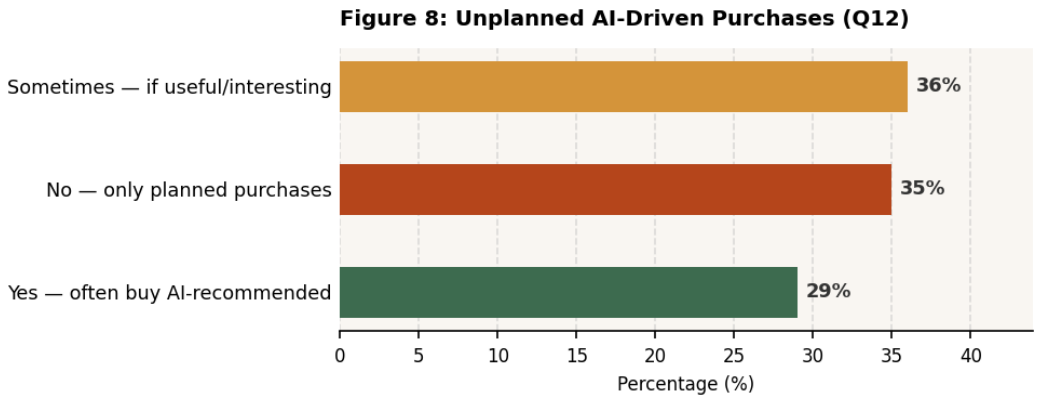

Figure 8: Unplanned AI-Driven Purchases — Q12

4.5 Personalized Discounts and Purchase Intent

Personalized discounts achieve the strongest positive consensus in the dataset (Figure 9): 45% agree, and 16% strongly agree that targeted discount offers increase their purchase interest (Q7), for a total of 61% positive responses. This is the most commercially actionable finding — discount personalization is more effective at driving purchase intent than product recommendations alone. It reflects the enduring price sensitivity of Indian consumers, particularly in Tier 2 and Tier 3 markets, even as premiumization trends emerge among younger urban cohorts.

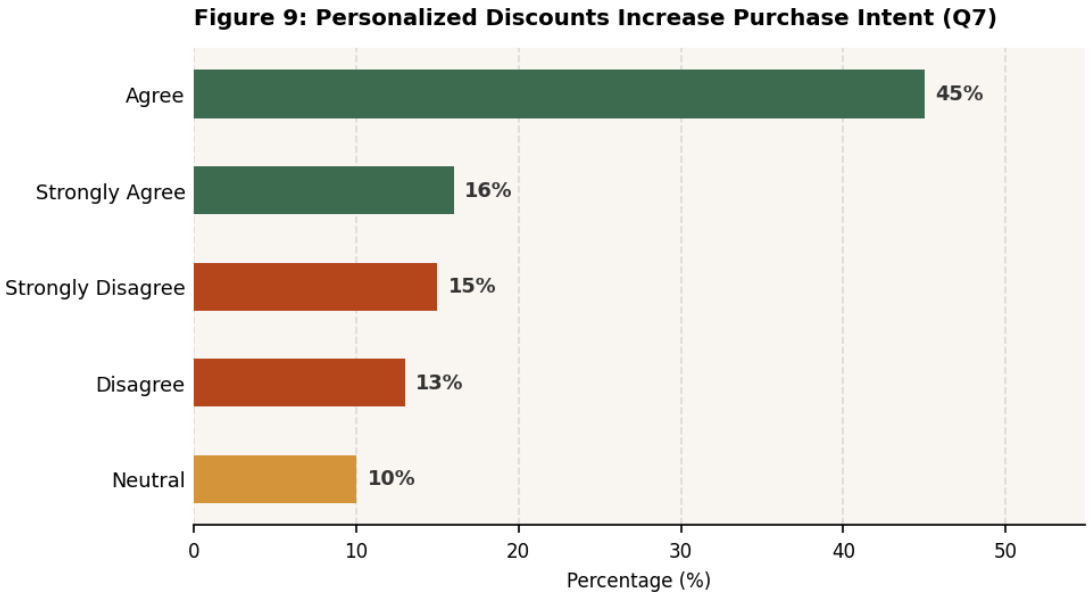

Figure 9: Personalized Discounts Increase Purchase Intent — Q7

4.6 Platform Loyalty and Word-of-Mouth

Platform loyalty scores (Figure 10) show a moderately positive distribution — 43% of respondents rate their loyalty at 4 or 5 out of 5 — yet a substantial 31% rate it 1 or 2, indicating that platforms still lose a significant share of buyers following personalized experiences. For recommendation referrals (Q11), responses were evenly distributed across all options, suggesting that AI-driven personalization has not yet achieved the consistency needed to drive word-of-mouth advocacy reliably.

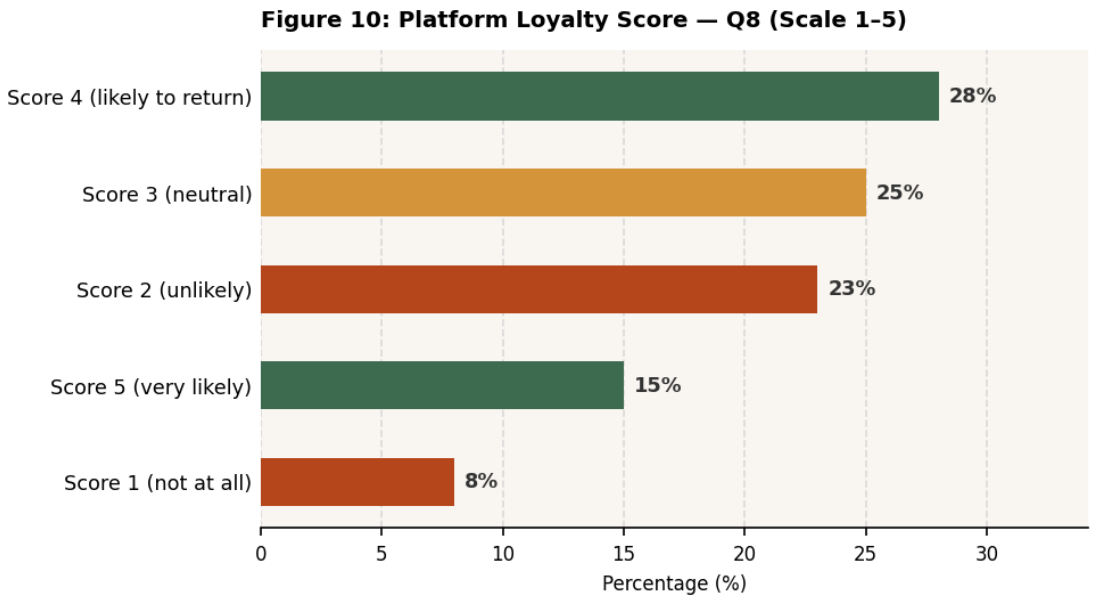

Figure 10: Platform Loyalty Score — Q8 (Scale 1–5)

5. Global Market Dynamics

5.1 Social Commerce as Retail Infrastructure

Social commerce has undergone a structural transformation from a discovery channel to a complete purchase environment. Revenue is projected to grow from $919 billion in 2026 to over $1.1 trillion by 2029, with TikTok, Facebook, and Instagram ranking as the leading platforms [7]. For fashion specifically, beauty, fashion, and lifestyle categories perform best in social commerce environments due to their visual nature and compatibility with creator-led demonstrations. Native social checkout drives significant gains in conversion rates. However, a strong in-app buying experience depends on operational readiness: inaccurate inventory, unreliable delivery estimates, or slow customer support rapidly erodes consumer trust.

5.2 AI's Expanding Role in Fashion

Nearly half of all shoppers rely on AI tools for discovery and inspiration, and the top two use cases for AI among fashion industry professionals are product discovery and personalized marketing [14]. 2026 marks the rise of agentic AI — systems capable of understanding a shopper's intent and acting on it autonomously. Platforms like Daydream are already onboarding over 200 fashion brands to connect high-intent AI shoppers with curated products. For the Indian market, this trajectory implies a future where AI does not merely recommend but actively curates entire wardrobes and manages replenishment.

5.3 The Fast Fashion Sustainability Paradox

The fast fashion market is set to grow at a 7% CAGR through 2029. Nevertheless, the fashion sector already accounts for 10% of global carbon emissions and produces 1.2 billion tons of greenhouse gases annually. Approximately 60% of consumers now consider sustainability when making purchasing decisions, yet affordability continues to dominate actual behavior. The secondhand apparel market is already valued at $260 billion and growing three times faster than new clothing [1], signaling a structural

shift in consumer values that brands cannot afford to ignore. In India, slow fashion pioneers like Doodlage and No Nasties represent a growing niche but not yet a mainstream norm.

5.4 India's Fashion E-Commerce Ecosystem

Forty-three percent of Indian shoppers are influenced by creator content, and 89% believe social media could become their primary shopping channel by 2030, while 41% already shop online at least 2–3 times per week [11]. India's fashion e-commerce market is projected to grow at a CAGR of 24.2% through 2032 [20]. Myntra CEO Nandita Sinha has highlighted that e-tailers are critical to brand growth because they help overcome the shortage of physical retail infrastructure across the subcontinent. The survey dataset's Meesho-first platform preferences directly reflect this social commerce orientation.

6. Challenges and Controversies

6.1 Privacy versus Personalization

The finding that 26% of Indian consumers feel their privacy is being invaded by AI personalization reflects a global crisis of consumer trust in data practices. The integration of AI into e-commerce raises significant ethical dilemmas regarding data privacy and algorithmic bias [15]. The tension is structural: effective personalization requires extensive data collection, but extensive data collection erodes the trust that makes personalization effective. Platforms that fail to navigate this paradox will find themselves in a trust deficit that no recommendation engine can overcome. India's DPDP Act is beginning to formalize these accountability standards for the first time.

6.2 Greenwashing and the Sustainability Gap

Fast fashion's sustainability claims warrant scrutiny. Some brands claim to produce 25–30% of their collections with sustainable materials while maintaining an unchanged, unsustainable core model. In India, greenwashing has become sophisticated enough that it requires hours of consumer research to verify whether a new material is genuinely environmentally beneficial [18]. AI personalization presents a dual risk: it could accelerate sustainability by steering consumers toward responsible choices, or it could entrench fast-fashion consumption by optimizing impulse purchases and normalizing overconsumption.

6.3 Return Fraud and the Wardrobe Problem

The behavioral consequences of algorithmic impulse purchasing are visible in return rates. Approximately 19.3% of all online sales were projected to be returned in 2025, and 46% of US shoppers aged 18–34 admit to 'wardrobing' — wearing an item with tags attached and returning it for a full refund. When AI recommendations successfully drive unplanned purchases, they may simultaneously inflate return rates, creating downstream logistical and environmental costs that offset conversion gains [3].

7. Key Statistics at a Glance

Table 1 presents the key global and survey statistics underpinning this analysis.

Metric	Value / Finding
Global social commerce revenue (2026)	$919 billion
Global fast fashion market value	$260 billion
McKinsey GenAI value-add to fashion	$150–$275 billion (5 years)
India fashion e-commerce CAGR (2025–2032)	24.2%

Survey respondents	124 Indian online shoppers
Respondents aged 18–34	65%
Female respondents	56%
Noticed AI personalization (Q5)	81%
Feel privacy is invaded by AI (Q10)	26%
Curious but cautious about AI (Q10)	29%
Sometimes/often make unplanned AI purchases (Q12)	65%
Agree personalized discounts increase intent (Q7)	61%
High loyalty score (4–5 out of 5) (Q8)	43%
Fashion sector share of global carbon emissions	10%
Online return rate (2025)	19.3%
Secondhand apparel market growth vs new clothing	3× faster

Table 1: Key Statistics — Fast Fashion, Social Commerce and AI Personalization (2026)

81% Indian survey respondents who noticed AI personalization	**61%** Agree personalized discounts increase purchase interest	**56%** Report buying unplanned AI-recommended items sometimes or often	**26%** Feel annoyed or privacy-invaded by personalization	**43%** Indian shoppers influenced by creator content (DHL, 2025)	**89%** Believe social media will be top shopping channel by 2030	**$275B** Maximum AI value-add projected for fashion industry over 5 years (McKinsey)	**52+** Micro-seasons per year in modern fast fashion cycles

8. Result and Discussion

The dataset reveals a consumer landscape in which AI personalization is simultaneously pervasive and polarizing. Awareness is near-universal among frequent online shoppers (81%), yet emotional responses are almost evenly distributed across excitement, curiosity, neutrality, and privacy anxiety. This suggests the technology has reached saturation in visibility but has not achieved a corresponding consensus on desirability.

The most commercially significant finding is the superior performance of personalized discounts (61% positive response) relative to product recommendations in generating purchase intent. This reflects the Indian market's enduring price sensitivity and suggests that platforms seeking to maximize AI-driven conversions should frame personalization primarily as a value-delivery mechanism rather than a behavioral nudge. Consumers who perceive AI personalization as offering them a financial benefit are significantly more likely to engage positively.

The 26% privacy-anxious segment represents a structural constraint on AI-driven growth. This cohort is unlikely to be converted by more sophisticated recommendation algorithms — their concern is not accuracy but consent and transparency. Addressing this segment requires explicit data governance communication, opt-in personalization frameworks, and visible controls over data usage. Platforms that provide these mechanisms may be able to convert a portion of this group from passive resisters into engaged participants.

Platform loyalty data showing 31% low-loyalty scores despite personalized experiences underscores a persistent gap between recommendation quality and consumer satisfaction. Unplanned purchases that fail to meet expectations — a likely consequence of algorithmically amplified impulse behavior — may be eroding post-purchase sentiment. This suggests a need for post-purchase personalization (follow-up recommendations, style pairing, usage suggestions) that reinforces purchase satisfaction rather than simply driving the next transaction.

9. Future Outlook

2026 marks the rise of agentic AI — systems capable of understanding a shopper's intent and acting on it autonomously. Platforms like Daydream are already onboarding over 200 fashion brands to connect high-intent AI shoppers with curated products. For the Indian market, this trajectory implies a future where AI actively curates entire wardrobes, manages replenishment, and negotiates pricing — amplifying both the commercial opportunity and the ethical stakes around consumer autonomy.

Sustainability represents an emerging competitive differentiator. McKinsey estimates generative AI could optimize supply chains, reduce overproduction, and guide consumers toward sustainable alternatives — but only if brands deploy it that way [2]. In India, early movers in sustainable fashion have an opportunity to capture a loyalty premium before the space becomes crowded. As consumers become more conscious of their fashion choices, brands that embrace sustainability are building stronger customer trust and long-term loyalty — particularly among the Gen Z cohort that will dominate purchasing power through the next decade.

India's platforms — particularly Meesho and Myntra — are investing heavily in the operational layers (accurate inventory, reliable delivery, responsive support) that social commerce at scale demands. As this infrastructure matures, India is poised to become one of the world's most important proving grounds for integrating AI, social commerce, and sustainable fashion retail.

10. Conclusion

The intersection of fast fashion, social commerce, and AI personalization is producing one of the most consequential transformations in retail history — and the 124-responder Indian survey dataset illuminates the human reality beneath the macro statistics. Awareness of AI personalization is near-universal among frequent online shoppers, but that awareness does not translate into acceptance. Consumers are divided almost equally between excitement, curiosity, neutrality, and privacy anxiety. The 26% who feel their data is being exploited represent a material trust deficit that will limit AI-driven conversion if left unaddressed.

The most actionable insight from this study is also the most intuitive: personalized discounts outperform product recommendations in generating purchase intent because they are perceived as value delivery rather than behavioral surveillance. Platforms that lead with consumer benefit rather than behavioral nudge will

earn the trust that unlocks the full potential of social commerce — and will be better positioned to navigate the regulatory landscape that India's DPDP Act foreshadows.

The $919 billion social commerce market and the $260 billion fast fashion industry are converging on a single chokepoint: consumer trust. The brands that solve for trust — through transparent data practices, meaningful sustainability commitments, and personalization that genuinely serves the shopper — will define the next decade of fashion retail in India and beyond.

Acknowledgment

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He has conducted primary survey-based research examining the impact of fast fashion and social commerce on Indian online shoppers, with a particular emphasis on how AI-powered personalization influences consumer decision-making. His work reflects a strong understanding of modern marketing dynamics and evolving customer engagement strategies. Hariom has also actively contributed to CSR and sustainability initiatives, working on projects related to eco-friendly product design and circular economy practices. His interest in sustainable marketing aligns with his goal of promoting responsible consumption and ethical branding.

In addition to his marketing expertise, he possesses strong analytical capabilities and is proficient in tools such as Power BI, Tableau, Excel, and Python, enabling him to derive actionable insights to support marketing strategies and business growth. He is passionate about combining creativity with data-driven marketing approaches to build impactful brand experiences and drive meaningful customer engagement.