International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 212-219

To cite this article: Dr. A. Xavier Mahimairaj and D.J. Joyci Christi (2026). ARTIFICIAL INTELLIGENCE IN BEHAVIORAL ANALYTICS: EXPLORING CONSUMER ENGAGEMENT AND PURCHASE DECISIONS IN QUICK-COMMERCE APPS, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (1): 212-219 Article No. 588 Sub Id 1031

ARTIFICIAL INTELLIGENCE IN BEHAVIORAL ANALYTICS: EXPLORING CONSUMER ENGAGEMENT AND PURCHASE DECISIONS IN QUICK-COMMERCE APPS

Dr. A. Xavier Mahimairaj[1] and D.J. Joyci Christi[2]

[1]Research Supervisor & Head, PG and Research Department of Commerce (Shift I), Loyola College, Chennai-34.

[2]Research Scholar, PG and Research Department of Commerce (Shift I), Loyola College, Chennai-34.

DOI: https://doi.org/10.38193/IJRCMS.2026.8117

ABSTRACT

This study examines how AI-driven behavioural analytics and personalization shape consumer engagement and purchase decisions in Q-commerce apps like Swiggy Instamart, Zepto, and Blinkit. Based on responses from 100 users (ages 15–25), statistical tests reveal that gender, age, and education significantly influence how consumers perceive and respond to AI recommendations. The findings show that AI enhances satisfaction, engagement, and decision-making, but its impact varies across demographic groups. The study highlights the need for transparent and user-focused AI systems to strengthen trust and loyalty in Q-commerce platforms.

KEYWORDS: Artificial Intelligence, Behavioural Analytics, Quick-Commerce, Consumer Engagement.

INTRODUCTION

Artificial Intelligence (AI) is transforming how quick-commerce (Q-commerce) platforms understand and influence consumer behaviour. Apps like Swiggy Instamart, Zepto, and Blinkit rely on AI-driven behavioural analytics to process real-time data and deliver personalized experiences. These systems study browsing habits, purchase frequency, and contextual preferences to predict needs and recommend relevant products, ultimately strengthening user engagement and driving purchase decisions.

With rising competition in Q-commerce, examining how AI shapes consumer interactions have become essential for improving satisfaction and loyalty. This study investigates the role of AI-enabled behavioural analytics in enhancing decision-making and value creation across Q-commerce platforms. Research also highlights the impact of personalization, with recent studies reporting notable improvements in user engagement and conversion when AI-based recommendations are applied.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 212-219

NEED OF THE STUDY:

Quick-commerce platforms such as Swiggy Instamart, Zepto, and Blinkit rely heavily on AI to deliver fast, convenient, and personalized shopping experiences. Although AI's influence in traditional e-commerce is well studied, its specific effects in the Q-commerce context are still unclear. Understanding how real-time analytics, AI-based recommendations, and personalized interactions shape quick purchase decisions is crucial. This study addresses this gap by providing insights into how AI drives consumer engagement and purchase behaviour in the rapidly growing Q-commerce environment.

OBJECTIVES:

1. To analyze how artificial intelligence is applied in behavioural analytics to understand consumer behaviour in quick-commerce apps.
2. To examine the influence of AI-driven personalization and recommendations on consumer engagement and purchase decisions.
3. To develop a conceptual understanding of how AI-enabled behavioural insights contribute to improved consumer satisfaction and loyalty in Q-commerce.

SAMPLE DESIGN

This study is based on primary data collected from 100 respondents residing in the Chennai region. The participants fall within the age group of 15 to 25 years.

REVIEW OF LITERATURE:

Luna Sanchez (2024) examines the factors influencing consumer behaviour on quick-commerce platforms by integrating the Technology Acceptance Model (TAM) and M-SERVQUAL frameworks. The study shows that perceived usefulness, ease of navigation, and information quality strongly shape purchase decisions. While interaction quality relates to buying behavior, its effect is weaker, suggesting that time pressure and personal preferences may influence user responses. The findings indicate that traditional m-commerce factors do not always transfer directly to Q-commerce, highlighting the need for platform-specific engagement strategies.

Raji et al. (2024) review advancements in AI-driven personalization and behavioural analytics in e-commerce. Their analysis demonstrates that machine learning models accurately interpret user intent from behavioural cues such as clicks and session duration, enabling dynamic and highly relevant recommendations. The authors emphasize that incorporating behavioural insights into marketing decisions strengthens alignment between platform offerings and consumer expectations.

Mohsin (2024) explores the impact of AI-enabled personalization on purchase decisions in digital retail. The study reports that tailored recommendations, dynamic deals, and predictive algorithms

significantly boost purchase intentions and user retention. While personalization enhances engagement, the research also notes potential risks, such as reduced user autonomy and ethical concerns when personalization becomes overly intrusive.

Ribeiro (2025) investigates the role of AI in shaping consumer experiences through elements like convenience, trust, security, and personalization. The study concludes that AI improves satisfaction and loyalty by supporting smooth and context-aware shopping journeys. However, issues related to privacy and algorithmic fairness sometimes weaken consumer confidence, indicating the importance of balancing efficiency with responsible AI use.

Kewlani, Mathur, and Bansal (2025) focus on AI-based personalization in Q-commerce apps such as Swiggy Instamart and Zepto. Their empirical findings suggest that AI-generated recommendations and situational promotions significantly increase engagement and purchase frequency. Consumers especially value predictive suggestions during urgent, need-based shopping, positioning AI as a key driver of operational performance and customer retention.

Singhal (2025) studies consumer perceptions of AI-powered personalization with a focus on trust and fairness. The research highlights that personalization enhances usefulness and enjoyment, but consumer confidence increases when platforms explain how AI chooses and displays content. The study stresses that transparent and ethically designed AI systems are essential for long-term engagement.

Somayajula et al. (2025) analyze demographic and technological factors affecting Q-commerce adoption. Their results show that young consumers (18–24 years) exhibit the highest usage, motivated by convenience, speed, and digital familiarity. AI-driven features such as predictive search, automated suggestions, and real-time tracking improve satisfaction and encourage repeat purchases. The authors conclude that AI's influence extends beyond personalization, reshaping consumer expectations around speed, control, and reliability in quick-commerce platforms.

DATA AND INTERPRETATION

CHI-SQUARE ANALYSIS

The chi-square test is a statistical method used to determine whether a significant association exists between two categorical variables one independent and one dependent.

TABLE 1: RELATIONSHIP BETWEEN GENDER AND THE IMPACT OF AI-ENABLED BEHAVIORAL INSIGHTS ON SATISFACTION AND LOYALTY

H0: There is no significant difference between male and female consumers in how AI-enabled behavioural insights influence their satisfaction and loyalty in quick-commerce apps.

H1: There is a significant difference between male and female consumers in how AI-enabled behavioural insights influence their satisfaction and loyalty in quick-commerce apps.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 212-219

GENDER * SATISFACTION AND LOYALTY

Cross tabulation

			SATISFACTION AND LOYALTY				
			STRONGLY AGREE	AGREE	STRONGLY DISAGREE	DISAGREE	Total
Gender.	MALE	Count	12	50	0	0	62
		Expected Count	7.4	43.4	2.5	8.7	62.0
	FEMALE	Count	0	20	4	14	38
		Expected Count	4.6	26.6	1.5	5.3	38.0
Total		Count	12	70	4	14	100
		Expected Count	12.0	70.0	4.0	14.0	100.0

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.365(a)	3	.000
Likelihood Ratio	49.055	3	.000
Linear-by-Linear Association	36.790	1	.000
N of Valid Cases	100		

- 3 cells (37.5%) have an expected count of less than 5. Expected count is 1.52.

Interpretation:

The Chi-Square significance value (.000) is lower than the standard significance level of 0.05. This means the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. Therefore, the results indicate that gender plays a significant role in shaping how AI-enabled behavioural insights influence consumer satisfaction and loyalty in quick-commerce apps.

TABLE 2: CHI-SQUARE TEST ON AGE AND THE PERCEIVED EFFECTIVENESS OF AI-BASED BEHAVIORAL ANALYTICS IN UNDERSTANDING CONSUMER BEHAVIOR

H0: There is no significant relationship between age and consumers' perception of how effectively AI-based behavioural analytics understands their behaviour in quick-commerce apps.

H1: There is a significant relationship between age and consumers' perception of how effectively AI-based behavioural analytics understands their behaviour in quick-commerce apps.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 212-219

Cross Tabulation

		CONSUMERS' PERCEPTION OF HOW EFFECTIVELY AI-BASED BEHAVIORAL ANALYTICS				Total
		Highly Satisfied	Satisfied	Neither / Nor	Dissatisfied	
AGE	18-21 Count	13	58	42	1	114
	18-21 Expected Count	17.2	46.4	48.1	2.3	114.0
	22-25 Count	14	23	32	1	70
	22-25 Expected Count	10.6	28.5	29.5	1.4	70.0
	26-30 Count	3	0	7	2	12
	26-30 Expected Count	1.8	4.9	5.1	.2	12.0
	31-35 Count	0	0	3	0	3
	31-35 Expected Count	.5	1.2	1.3	.1	3.0
Total	Count	30	81	84	4	199
	Expected Count	30.0	81.0	84.0	4.0	199.0

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.365(a)	3	.000
Likelihood Ratio	49.055	3	.000
Linear-by-Linear Association	36.790	1	.000
N of Valid Cases	100		

Interpretation:

The Chi-square value (.000) is below 0.05, showing a significant link between age and how consumers view the effectiveness of AI-based behavioural analytics. Hence, the null hypothesis is rejected. This means perceptions of AI accuracy differ across age groups.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 8, No. 01 Jan-Feb; 2026 Page. No. 212-219

ANALYSIS OF VARIANCE

Analysis of Variance (ANOVA) is a statistical method used to determine whether there are significant differences in the mean values of a dependent variable across multiple groups or categories.

TABLE 3: EDUCATIONAL QUALIFICATION AND ITS INFLUENCE ON AI-DRIVEN PERSONALIZATION PREFERENCES

H0: There is no significant difference across different educational qualification levels in how AI-driven personalization and recommendations influence consumer engagement and purchase decisions in quick-commerce apps.

H1: There is a significant difference across different educational qualification levels in how AI-driven personalization and recommendations influence consumer engagement and purchase decisions in quick-commerce apps.

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
HSC	16	1.00	.000	.000	1.00	1.00	1	1
DIPLOMA	7	1.57	.535	.202	1.08	2.07	1	2
UG	38	2.00	.000	.000	2.00	2.00	2	2
PG	32	3.66	.483	.085	3.48	3.83	3	4
STUDENT	7	4.00	.000	.000	4.00	4.00	4	4
Total	100	2.48	1.096	.110	2.26	2.70	1	4

PREFERENCE

	SOS	Df	Mean Square	F	Sig.
Between Groups	110.027	4	27.507	292.525	.000
Within Groups	8.933	95	.094		
Total	118.960	99			

Interpretation:

The ANOVA result is significant ($p < .001$), indicating that the differences observed are meaningful and not due to chance. Therefore, the null hypothesis is rejected.

This shows that education level influences how consumers trust and respond to AI-driven personalization in quick-commerce apps. Individuals with higher educational qualifications tend to engage more and are more affected by AI-based recommendations.

FINDINGS:

1. AI personalization strongly boosts engagement and purchase behaviour.
2. Gender significantly affects satisfaction and loyalty toward AI features.
3. Age influences how accurately users feel AI understands their behaviour.
4. Education level impacts how much users trust and respond to AI recommendations.
5. Predictive, real-time suggestions improve convenience and repeat usage.
6. Trust and transparency increase acceptance of AI-driven features.

SUGGESTIONS:

1. Increase transparency in AI recommendations.
2. Customize AI features based on demographic differences.
3. Strengthen privacy and ethical AI practices.
4. Provide user control over personalization settings.
5. Improve predictive analytics for faster, need-based suggestions.
6. Educate users to enhance understanding and trust in AI features.

CONCLUSION:

The study concludes that AI plays a crucial role in shaping consumer engagement and purchase decisions in Q-commerce platforms. Demographic factors—especially age, gender, and education—significantly influence how users perceive and respond to AI-driven personalization. Strengthening transparency, ethical practices, and user-centered design will further enhance satisfaction and loyalty, making AI an essential tool for the future growth of quick-commerce services.

REFERENCE:

1. Luna Sanchez, M. (2024). Consumer behaviour in quick-commerce: A TAM and M-SERVQUAL approach. *International Journal of Mobile Commerce Studies, 12*(1), 45–63.
2. Raji, R., Chen, L., & Kumar, S. (2024). AI-driven personalization and behavioral analytics in e-commerce. *E-Commerce and Data Science Review, 7*(3), 65–89.

3. Mohsin, A. (2024). AI personalization and its influence on digital purchase intentions. *Journal of Retail Technology & Innovation, 9*(4), 221–238.
4. Ribeiro, T. (2025). Artificial intelligence and consumer experience: Trust, personalization, and convenience. *Journal of Consumer Technology Insights, 15*(1), 30–49.
5. Kewlani, P., Mathur, R., & Bansal, N. (2025). AI-based personalization in Q-commerce apps: A user engagement perspective. *Journal of Digital Retail Analytics, 18*(2), 112–130.
6. Singhal, P. (2025). Trust and fairness in AI-powered personalization. *Journal of Interactive Marketing Research, 6*(2), 74–93.
7. Somayajula, V., Sharma, A., & Das, K. (2025). Drivers of quick-commerce adoption among youth. *Journal of Digital Consumer Behavior, 11*(1), 55–70.
8. Accenture. (2024). *Reinventing retail with AI and real-time analytics*. https://www.accenture.com
9. Blinkit. (2024). *How AI powers instant deliveries*. https://blinkit.com/blog
10. Deloitte. (2024). *AI-driven personalization: The next frontier in digital retail*. https://www2.deloitte.com
11. EY India. (2024). *The rise of quick-commerce in India*. https://www.ey.com/en_in
12. Forbes. (2023). *AI personalization is transforming online shopping*. https://www.forbes.com
13. Ministry of Consumer Affairs. (2024). *Digital consumer behavior in India report*. Government of India. https://consumeraffairs.nic.in
14. NITI Aayog. (2023). *AI for all: India's national AI strategy*. Government of India. https://www.niti.gov.in