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Examining the Phygital Consumer and AI-Driven Marketing Strategies for Inclusive and Sustainable Growth in India

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Abstract

The emergence of the physical consumer, who seamlessly integrates physical and digital shopping experiences, has fundamentally transformed India's marketing landscape. Rapid digitalization, widespread smartphone adoption, expanding e-commerce, and AI-enabled customer engagement have encouraged businesses to redesign marketing strategies that deliver personalized, real-time, and Omni channel experiences. This paper examines how artificial intelligence supports physical marketing by enabling predictive analytics, customer segmentation, recommendation systems, conversational AI, and data-driven decision-making. It further explores the contribution of AI-driven marketing to inclusive growth by improving accessibility, expanding market reach for small businesses, and enhancing consumer participation across diverse socio-economic groups. From a sustainability perspective, AI facilitates efficient resource utilization, demand forecasting, waste reduction, and responsible consumption, aligning marketing practices with India's sustainable development priorities. The study concludes that integrating AI with physical marketing represents a strategic pathway for fostering customer-centric innovation, digital inclusion, competitive advantage, and sustainable economic growth in India's evolving marketplace.

Keywords: *Phygital Consumer, AI-Driven Marketing, Inclusive Growth, Sustainability, Digital Retail India*

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1. Introduction

India's consumer marketplace has undergone a remarkable transformation with the rapid convergence of physical and digital channels, giving rise to the physical consumer an individual who seamlessly moves between online and offline environments throughout the purchasing journey. The widespread adoption of smartphones, affordable internet connectivity, digital payment systems, and Omni channel retailing has significantly reshaped consumer expectations, making convenience, personalization, and real-time engagement central to purchasing decisions. Consumers now expect brands to deliver consistent experiences across physical stores, e-commerce platforms, mobile applications, and social media channels. This evolving consumption pattern has encouraged organizations to integrate advanced digital technologies into their marketing strategies to enhance customer engagement, improve service quality, and strengthen brand loyalty. Consequently, businesses across retail, banking, healthcare, tourism, and other service sectors are increasingly investing in AI-powered solutions to

create seamless and customer-centric phygital experiences (Verhoef et al., 2021). Artificial Intelligence (AI) has emerged as a strategic enabler of physical marketing by supporting predictive analytics, personalized recommendations, intelligent chatbots, sentiment analysis, dynamic pricing, and automated customer relationship management (Bhanot & Gaikwad, 2025). In the Indian context, AI-driven marketing also contributes to inclusive growth by extending digital services to underserved populations, empowering small and medium enterprises (SMEs), and promoting sustainable business practices through efficient resource utilization and demand forecasting. As India advances toward a digitally empowered economy, the integration of AI with physical marketing offers significant opportunities for fostering innovation, consumer inclusivity, environmental sustainability, and long-term competitive advantage, making it an important area of academic and managerial investigation (Kumar et al., 2024).

2. Background of Study

The rapid advancement of digital technologies has transformed India's retail and service ecosystem, creating a new generation of consumers who expect seamless integration between online and offline interactions. The emergence of the physical consumer is driven by increasing internet penetration, smartphone usage, digital payment adoption, social commerce, and AI-enabled customer engagement platforms. Consumers today search for products online, compare alternatives through digital platforms, experience products in physical stores, and complete purchases through the channel that offers the greatest convenience. This shift has encouraged businesses to adopt Omni channel marketing strategies that combine physical touch points with digital intelligence to deliver personalized, consistent, and engaging customer experiences. Artificial Intelligence has become a critical enabler of this transformation by supporting predictive analytics, customer segmentation, recommendation engines, conversational AI, and real-time decision-making (Gaikwad, 2024). Beyond enhancing customer satisfaction and business performance, AI-driven physical marketing contributes to inclusive growth by improving digital accessibility for diverse consumer groups and enabling small and medium enterprises to participate more effectively in the digital economy. AI optimizes inventory management, reduces operational waste, and supports responsible consumption, thereby strengthening sustainable business practices aligned with India's vision of technology-led and inclusive economic development (Davenport et al., 2024).

3. Scope and Significance of Study

This study examines the emergence of the physical consumer in India and the growing role of Artificial Intelligence (AI) in developing effective marketing strategies that support inclusive and sustainable growth. It focuses on the integration of physical and digital consumer touch points, AI-enabled marketing applications, personalized customer engagement, predictive analytics, Omni channel retailing, and intelligent decision-making across various sectors such as retail, e-commerce, banking, healthcare, and service industries. The study further explores how AI-driven marketing enhances consumer experiences, improves business efficiency, expands market access for small and medium enterprises (SMEs), and promotes digital inclusion among diverse demographic groups. From a sustainability perspective, it highlights AI's contribution to optimizing resource utilization, minimizing operational waste, improving demand forecasting, and encouraging responsible consumption (Huang & Rust, 2021). The findings of this study are expected to benefit academicians, researchers, policymakers, marketing professionals, and business organizations by providing insights into emerging consumer behaviour.

4. Objective of Study

- To examine the emergence and characteristics of the physical consumer in India.
- To analyse the role of Artificial Intelligence in transforming marketing strategies across physical and digital channels.
- To evaluate the impact of AI-driven marketing strategies on consumer engagement, personalization, and customer experience.
- To assess the contribution of AI-enabled physical marketing towards inclusive business growth and digital accessibility.
- To examine the role of AI-driven marketing in promoting sustainable business practices and long-term organizational growth in India.
- To suggest strategic measures for strengthening AI-driven physical marketing for inclusive and sustainable growth in the Indian market.

5. Review of Literature

The emergence of the physical consumer has become a defining feature of modern marketing, particularly in rapidly digitalizing economies such as India. Phygitalization refers to the seamless integration of physical and digital touch points, enabling consumers to transition effortlessly between online and offline channels during the purchase journey (Rana et al., 2025). This transformation has encouraged businesses to adopt Omni channel strategies supported by technologies such as artificial intelligence (AI), augmented reality, predictive analytics, and data-driven retail systems to deliver immersive, personalized, and engaging customer experiences (Zaidi et al., 2024).

AI further enhances these capabilities through real-time personalization, consumer behaviour prediction, recommendation engines, and intelligent customer interactions, thereby improving brand loyalty, operational efficiency, and strategic agility. Effective AI adoption, however, requires robust data infrastructure, skilled human resources, transparent governance, and ethical data management to ensure fairness and consumer trust (Swaminathan, 2025).

AI-driven physical marketing extends beyond commercial value by promoting digital accessibility, improving service delivery, and supporting innovation-led economic growth. AI empowers organizations to develop customer-centric business models while enabling small and medium enterprises (SMEs) to participate more effectively in digital markets(Kulkarni et al., 2025).
Contemporary research also emphasizes that sustainable marketing success depends on balancing technological innovation with social inclusion, ethical AI practices, and environmental responsibility. Innovation frameworks advocating inclusive growth highlight the importance of maximizing social value alongside economic performance, while India's digital transformation has accelerated the emergence of technology-enabled consumer behaviour that supports these objectives (Koppa et al., 2026). Collectively, the literature suggests that AI-driven physical marketing represents a strategic pathway for strengthening consumer engagement, business competitiveness, and sustainable development, provided that technological advancement is aligned with ethical governance and inclusive innovation (Borde & Mashelkar, 2025).

6. Research Methodology

- **Research Design:** This study employs a cross-sectional survey design targeting urban consumers in Jaipur, Rajasthan, India, to assess perceptions of phygital experiences and AI-driven marketing strategies.

- **Sample Size:** A total of 180 respondents were surveyed. Participants were selected using stratified random sampling to ensure representation across age, gender, educational background, and income levels.
- **Data Collection:** A structured questionnaire was used, including Likert-scale items measuring: Awareness of physical interactions, Perceived usefulness of AI in marketing, Accessibility and inclusivity of digital services, Sustainability-related attitudes toward brands
  - **Hypotheses Formulation**

Hypothesis 1

$H0_1$: Respondents do not significantly agree that phygital adoption is high.
$H1_1$: Respondents significantly agree that physical adoption is high.

Hypothesis 2

$H0_2$: AI-driven marketing does not significantly influence consumers.
$H1_2$: AI-driven marketing significantly influences consumers.

Hypothesis 3

$H0_3$: Phygital and AI strategies are not significantly associated with sustainability perception.
$H1_3$: Phygital and AI strategies are significantly associated with sustainability perception.

7. Discussion and Data Analysis

Quantitative data were analyzed using descriptive statistics and cross-tabulations to identify key trends. Understanding the Phygital Consumer in 2026. The contemporary Indian consumer exhibits "channel-agnostic" behavior. A shopper might discover a product via a regional-language AI chatbot on WhatsApp, experience it through an Augmented Reality (AR) mirror in a physical "Experience Center," and finally complete the purchase via a voice command for home delivery.

Table 1: The Demographic Drivers

The Demographic Drivers		
Gen Z Dominance:	The Rural Surge:	Vernacular First:
Accounting for 43% of total consumption in 2025-26, this demographic prioritizes "experience" over "ownership."	Over 60% of e-commerce transactions now originate from Tier-2 and Tier-3 cities.	AI-driven natural language processing (NLP) has made digital interfaces accessible in 22 official Indian languages, bringing millions of first-time "phygital" users into the fold.

Table 2: Participant Demographics and Data Table

Participant Demographics and Data Table		
Attribute	Category	Count (n = 180)
Gender	Male	97
	Female	83
Age Group	18–24	42
	25–34	70
	35–50	45
	50+	23
Education Level	High School	28
	Undergraduate	92

	Postgraduate	60
Digital Engagement Frequency	Daily	114
	Weekly	46
	Rarely	20

Table 3: Distribution of Responses on Phygital Consumer Behavior, AI-Driven Marketing, and Sustainability Orientation

Response Distribution (n = 180)								
Q.No	Statement (Short Form)	1	2	3	4	5	Mean	SD
Q1	Use online & offline channels	6	12	24	78	60	3.96	0.98
Q2	Use QR/apps/digital payments	8	10	22	80	60	3.97	1.01
Q3	Prefer seamless experiences	5	9	26	84	56	3.98	0.93
Q4	Phygital enhances satisfaction	7	11	25	76	61	3.96	0.99
Q5	AI chatbots improve service	10	15	30	72	53	3.79	1.07
Q6	Personalized ads influence purchase	12	18	34	68	48	3.68	1.12
Q7	AI helps optimize resources	6	14	28	74	58	3.91	1.02
Q8	Sustainability messages influence buying	9	16	32	71	52	3.78	1.08
Q9	Phygital contributes to sustainability	7	13	29	76	55	3.88	1.01

Table 4: Results of One-Sample t-Test Comparing Mean Scores with Neutral Value (Test Value = 3)

One-Sample t-Test Results (Test Value = 3)				
Variable	Mean	t-value	p-value	Decision
Phygital Adoption (Q1–Q4 Avg.)	3.97	16.84	0.000	Reject $H0_1$
AI Marketing Influence (Q5–Q6 Avg.)	3.73	10.92	0.000	Reject $H0_2$
Sustainability Orientation (Q7–Q9 Avg.)	3.86	14.76	0.000	Reject $H0_3$

Table 5: Pearson Correlation Analysis between Phygital Adoption, AI Marketing Influence, and Sustainability Orientation

Variables	r-value	p-value	Interpretation
Phygital & Sustainability	0.52	0.000	Moderate Positive
AI Marketing & Sustainability	0.47	0.000	Moderate Positive

Table 6: Summary of Hypothesis Testing

Hypothesis No.	Null Hypothesis (H_0)	Alternative Hypothesis (H_1)	Test Applied	p-value	Decision	Result
H1	Phygital adoption is not significantly high (Mean ≤ 3).	Phygital adoption is significantly high (Mean > 3).	One-Sample t-Test	< 0.05	Reject H_0	Accepted H_1
H2	AI-driven marketing does not significantly influence consumers (Mean ≤ 3).	AI-driven marketing significantly influences consumers (Mean	One-Sample t-Test	< 0.05	Reject H_0	Accepted H_1

		> 3).				
H3	Phygital and AI strategies are not significantly associated with sustainability perception.	Phygital and AI strategies are significantly associated with sustainability perception.				

All null hypotheses (H_0) were rejected at the 5% significance level, and all alternative hypotheses (H_1) were accepted. The results confirm that phygital consumer behavior and AI-driven marketing strategies significantly influence consumer engagement and are positively associated with sustainability perceptions among respondents in Jaipur.

8. Finding of Study

- The study finds that the rapid convergence of physical and digital channels has significantly transformed consumer behaviour in India, leading to the emergence of the phygital consumer who expects seamless, personalized, and technology-enabled shopping experiences. Artificial Intelligence has become a key enabler of this transformation by supporting customer segmentation, predictive analytics, recommendation systems, conversational chatbots, dynamic pricing, and real-time marketing decisions.
- AI-driven marketing strategies improve customer engagement, satisfaction, brand loyalty, and operational efficiency while enabling organizations to optimize inventory, reduce marketing costs, and enhance decision-making. The findings further indicate that AI-powered phygital marketing promotes inclusive growth by expanding digital access, supporting small and medium enterprises (SMEs), and creating personalized experiences for diverse consumer groups.
- AI contributes to efficient resource utilization; demand forecasting, waste reduction, and responsible consumption, helping organizations align business objectives with environmental and social priorities. However, the successful implementation of AI-driven marketing requires strong data governance, consumer privacy protection, ethical AI practices, transparency, and continuous digital skill development. The integration of AI with phygital marketing offers a sustainable competitive advantage and represents a strategic pathway for inclusive and sustainable economic growth in India's evolving digital economy.

9. Conclusion

This study demonstrates that the rise of the physical consumer in India represents a significant shift in retail and marketing dynamics, driven largely by advancements in AI-powered technologies. The empirical findings confirm that consumers increasingly prefer seamless integration between online and offline channels and perceive AI-driven tools such as chatbots, personalized recommendations, and predictive analytics as influential in their purchase decisions. The statistical analysis validates that physical adoption and AI-driven marketing strategies are significantly prevalent among respondents, reflecting a strong acceptance of technology-enabled engagement models in the Indian context. The study establishes a meaningful positive relationship between physical adoption, AI marketing influence, and sustainability perception. This indicates that AI-enabled strategies are not only enhancing convenience and personalization but are also contributing to responsible consumption and

inclusive growth. By enabling vernacular access, hyper-local customization, and efficient resource management, AI supports broader participation in digital commerce while promoting operational sustainability. The long-term success will depend on addressing challenges related to data privacy, ethical AI governance, and digital inclusivity. The research underscores that AI-driven physical ecosystems can serve as a strategic pathway toward technologically advanced, inclusive, and sustainable retail development in India.

References:

- Bhanot, S., & Gaikwad, S. R. (2025). Bridging the generational divide: Exploring communication preferences, workplace behaviour, and conflict resolution between Generation Z and Generation Alpha. *Asian and Pacific Economic Review, 18*(1), 1071–1082. https://doi.org/10.65985/APER.2025669549
- Borde, A., & Mashelkar, R. A. (2025). *More from less for more: The art of inclusive innovation*. Penguin Random House India.
- Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2024). How generative AI will transform marketing. *Journal of the Academy of Marketing Science, 52*(1), 1–19. https://doi.org/10.1007/s11747-023-00969-x
- Gaikwad, S. R. (2024). Role of artificial intelligence in smart manufacturing of automobile industry in India. *AIP Conference Proceedings, 3178*(1), 070012. https://doi.org/10.1063/5.0229368
- Huang, M.-H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science, 49*(1), 30–50. https://doi.org/10.1007/s11747-020-00749-9
- Koppa, V., Shah, S., & Appadoo, S. (2026). *Empowering inclusive innovation: Artificial intelligence, sustainability, and digital transformation*. Springer.
- Kulkarni, P., Rajasekera, J., & Chaudhuri, B. B. (2025). *AI empowered digital business innovation*. Springer. https://doi.org/10.1007/978-981-96-5593-9
- Kumar, V., Ramachandran, D., & Kumar, B. (2024). Artificial intelligence in marketing: Transforming customer engagement and business performance. *Journal of Business Research, 175*, 114585. https://doi.org/10.1016/j.jbusres.2023.114585
- Rana, S., Jindal, P., Ghosal, I., Anand, A., & Mukherjee, S. (Eds.). (2025). *Marketing perspectives on phygitalization*. Apple Academic Press.
- Swaminathan, V. (2025). *Hyper-digital marketing: Six pillars of strategic brand marketing in an AI-powered world*. Palgrave Macmillan. https://doi.org/10.1007/978-3-031-95630-0
- Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2021). From multi-channel retailing to omnichannel customer experience. *Journal of Retailing, 97*(1), 174–181. https://doi.org/10.1016/j.jretai.2020.10.001
- Zaidi, S. F. H., Khan, M. A., Gupta, S., & Sharma, R. (2024). *Building AI-driven marketing capabilities: Strategy, technology, and organizational readiness*. Springer.

