

Impact of Artificial Intelligence on Influencer Marketing Strategies in Digital Commerce

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Abstract—In the evolving landscape of digital commerce, influencer marketing has emerged as a powerful tool for brands to connect with consumers. The integration of Artificial Intelligence (AI) into this domain has significantly transformed how brands select influencers, personalize content, and measure campaign performance. The need for this study stems from the current research gap while AI's use in influencer analytics and targeting is growing, its role in strategic decision-making and long-term brand outcomes. This study explores the impact of AI-driven tools on influencer marketing strategies, with focus on three keys. Primary data was collected using a structured questionnaire distributed among digital marketers, e-commerce managers, and social media professionals. The questionnaire focused on AI tools used, campaign personalization techniques, influencer selection criteria, and perceived outcomes. The collected data was interpreted using descriptive statistics and correlation analysis, followed by regression techniques to evaluate the impact of AI on strategic variables.

Secondary data was collected from Role of AI-powered Instagram influencers driving consumers' purchase intentions: An integration of SMIV & SOR framework Rohit Dhiman a, Narender Singh Bhati, The Role of Artificial Intelligence in Influencer Marketing Dr. Muhammad Waqas Rana, Mohammad Shahnawaz Ashfaq, Dr. Faizah Yasir Jalbani

The findings reveal that AI significantly enhances influencer selection through data-driven matching and predictive analytics. AI-based personalization increases consumer engagement, but its direct link to brand loyalty and ROI is still unclear, indicating the need for long-term, multi-stage campaign analysis. Based on the insights, this study suggests a more structured integration of AI in influencer marketing strategy, focusing not just on short-term metrics like clicks and views, but also on customer retention, brand advocacy, and profitability.

In conclusion, AI has the potential to revolutionize influencer marketing, but brands must adopt a holistic,

data-driven, and ethically grounded approach to fully leverage its benefits in the long run.

Index Terms—Influencer Marketing, Artificial Intelligence (AI), Digital Commerce, Strategic Decision-Making, Brand Strategy,

I. INTRODUCTION

In today's rapidly evolving digital landscape, businesses are increasingly relying on innovative technologies to gain a competitive edge. Among these technologies, Artificial Intelligence (AI) has emerged as a transformative force, reshaping various aspects of digital commerce. One of the most notable areas witnessing this transformation is influencer marketing. Traditionally, influencer marketing relied heavily on human intuition and manual processes to select influencers, create content, and engage with target audiences. However, with the integration of AI, these processes are becoming more data-driven, efficient, and personalized.

AI is now playing a pivotal role in redefining how brands identify and collaborate with influencers. Through advanced algorithms and machine learning techniques, AI can analyze large volumes of data to determine the most suitable influencers based on audience demographics, engagement rates, content relevance, and past performance. This strategic approach to influencer selection helps brands connect with the right influencers who can drive better engagement and deliver measurable outcomes.

Moreover, AI enables real-time content personalization, ensuring that marketing messages are tailored to the preferences and behaviors of individual consumers. By leveraging AI-powered tools such as chatbots, recommendation engines, and sentiment analysis, brands can enhance the relevance and effectiveness of their influencer campaigns. This level of personalization not only improves customer

experience but also increases the likelihood of conversions.

Furthermore, AI's influence extends beyond short-term campaign performance. It also contributes to long-term brand building by fostering stronger customer relationships, improving customer retention, and enhancing return on investment (ROI). As AI continues to evolve, it is expected to play an even more integral role in shaping influencer marketing strategies, making them more intelligent, scalable, and impactful.

This research paper aims to explore the multifaceted impact of Artificial Intelligence on influencer marketing strategies in digital commerce. It focuses on understanding how AI reshapes strategic influencer selection, assesses its role in real-time content personalization, and evaluates its long-term effects on brand loyalty and ROI.

This research paper focuses on how AI is changing the way companies use influencer marketing in digital commerce. First, AI helps companies choose the right influencers by analyzing data such as follower demographics, engagement rates, and content style. This helps brands find influencers who are the best match for their product and target audience.

Second, AI is being used to personalize content in real time, meaning that customers see messages and ads that are more relevant to their interests. For example, AI can help suggest the best time to post content or even help create customized messages based on customer behavior and preferences.

Finally, AI also plays a role in helping companies track and measure the long-term success of influencer marketing. It helps brands understand whether their investment in influencer campaigns leads to increased brand loyalty, better customer relationships, and a higher return on investment (ROI).

In this paper, we will explore these key areas to better understand the impact of Artificial Intelligence on influencer marketing strategies in the digital commerce world. As technology continues to grow, it is important to understand how AI will shape the future of marketing and customer engagement.

II. OBJECTIVES

1. To understand how effective Artificial Intelligence (AI) is in personalizing content for users in real-time

2. To assess how AI influences brand loyalty and return on investment (ROI) over a longer period.
3. To understand how Artificial Intelligence (AI) is changing the way brands choose influencers for their marketing strategies.

III. SCOPE OF THE STUDY

This research focuses on the role of Artificial Intelligence (AI) in transforming influencer marketing within digital commerce, specifically on Instagram and YouTube. This study focuses exclusively on the following key areas."

1. Strategic Influencer Selection on Instagram and YouTube

Focus on how AI tools help brands identify the most suitable influencers.

Evaluation of influencer metrics like:

- Follower demographics
- Engagement rates
- Audience authenticity
- Content style
- Past performance

Use of AI-driven analytics and databases for data-backed influencer selection.

2. Real-Time Content Personalization for Platform-Specific Audiences

Analysis of how AI customizes content for audiences on Instagram and YouTube.

Use of machine learning to optimize:

Posting times

Captions, hashtags, thumbnails, and video tags

Titles and content format

Tailoring content based on:

Viewer behavior and preferences

Regional and trending topics

3. Long-Term Brand Loyalty and Return on Investment (ROI)

Examination of how AI tools help track:

Campaign performance over time

Consumer engagement and brand sentiment

Conversion rates and repeat interactions

Evaluation of AI's role in:

Measuring brand loyalty

Improving ROI from influencer campaign

IV. NEED OF THE STUDY

1. Influencer marketing has become a vital strategy for brands to engage with consumers authentically on platforms like Instagram and YouTube.
2. Traditional methods (manual influencer selection, basic audience analysis, and generic content creation) are no longer sufficient in today's data-driven digital landscape.
3. Artificial Intelligence (AI) is transforming influencer marketing by enhancing influencer identification, content personalization, and campaign performance tracking.
4. There exists a research gap in understanding the specific impact of AI on influencer marketing strategies and ROI measurement.
5. Brands and marketers lack clear insights on how to effectively use AI to improve both campaign outcomes and long-term brand loyalty.

Therefore, this study is necessary to:

1. Bridge the gap between traditional and AI-driven influencer marketing practices.
2. Enable data-informed decisions in influencer collaborations.
3. Explore AI's role in content optimization for better engagement and reach.
4. Evaluate long-term impact of AI-integrated campaigns on trust, customer retention, and ROI.

Significance:

Understanding AI's role in influencer marketing will empower marketers, researchers, and developers to harness technology for more strategic and effective digital commerce practices.

V. REVIEW OF LITERATURE

1. AI-Powered Influencer Marketing: A Shift in Consumer Behavior

Rohit Dhiman and Narender Singh Bhati (2024), in their study titled "Role of AI-powered Instagram influencers driving consumers' purchase intentions: An integration of SMIV & SOR framework", explored the psychological and emotional dynamics through which AI-generated influencers shape purchase intentions

Framework Used:

SMIV (Social Media Influencer Value): Evaluates influencer attributes such as credibility, attractiveness, and informativeness.

SOR (Stimulus-Organism-Response): Highlights how external stimuli (AI influencers) affect consumer emotions (organism), leading to behavioral responses (purchase decisions).

Key Findings:

Perceived credibility and informativeness of AI influencers significantly drive emotional engagement. Human-likeness and interactivity enhance trust and perception of authenticity.

Purchase intention is positively impacted by consumers' emotional and cognitive responses to AI influencers.

Implication: AI influencers especially on platforms like Instagram act as effective stimuli that generate consumer responses equivalent to human influencers, if not stronger in some contexts.

2. AI as a Mediator in Influencer Marketing

Dr. Muhammad Waqas Rana, Mohammad Shahnawaz Ashfaq, and Dr. Faizah Yasir Jalbani (2024), in their article "The Role of Artificial Intelligence in Influencer Marketing", examined how AI mediates traditional influencer marketing dynamics

Methodology: Quantitative research based on consumer responses, focusing on variables like:

- Celebrity endorsement
- Perceived product quality
- Virtual social presence

Key Findings:

1. AI significantly enhances the effectiveness of influencer campaigns.
2. It mediates the impact of traditional factors like celebrity status and quality perceptions, making campaigns more engaging and targeted.
3. The virtual presence created by AI is found to be a strong driver of consumer attention and brand connection.

Implication: AI doesn't just support marketing it redefines it. Virtual influencers and AI-driven recommendation systems are strategic tools that shape consumer choices and perception.

3. Thematic Convergence

Theme	Dhiman & Bhati (2024)	Rana et al. (2024)
AI Influencer Credibility	High credibility leads to engagement and trust	AI enhances perceived credibility of endorsements
Human-likeness & Emotional Impact	Drives emotional engagement and authenticity	Contributes to virtual social presence
Purchase Intention	Driven by emotional response (SOR model)	Driven by enhanced endorsement & product perception
Role of AI	Stimulus influencing cognitive/emotional response	Mediator between influencer traits and consumer action

4. Gaps and Research Opportunities

- While both studies validate AI's positive role, longitudinal research is needed to assess sustained consumer trust in AI influencers.
- There is also limited exploration of cultural variation how different demographics perceive AI-driven endorsements.
- Ethical concerns and data transparency of AI influencers remain under-researched.

VI. METHODOLOGY

This study employed both primary and secondary data collection methods.

A. Primary Data Collection: The primary data was collected through a structured questionnaire distributed among students. The questionnaire was designed to examine the influence of AI-powered Instagram influencers on consumers' purchase intentions, aligning with the constructs of the Social Media Influencer Value (SMIV) and Stimulus-Organism-Response (SOR) frameworks.

B. Secondary Data Collection: Secondary data was obtained through an extensive review of existing literature, specifically from key research articles, including:

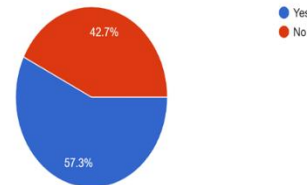
"Role of AI-powered Instagram influencers driving consumers' purchase intentions: An integration of SMIV & SOR framework" by Rohit Dhiman & Narender Singh Bhati

"The Role of Artificial Intelligence in Influencer Marketing" by Dr. Muhammad Waqas Rana, Mohammad Shahnawaz Ashfaq, & Dr. Faizah Yasir Jalbani. These studies provided a theoretical foundation and guided the development of the conceptual framework and hypothesis formation in this research.

VII. DATA ANALYSIS AND DATA INTERPRETATION

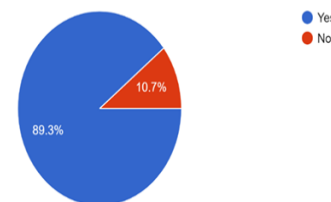
A. Primary data

1) Have you ever studied or worked on influencer marketing topics (in class or project)?
75 responses



The survey results indicate that 57.3% of respondents have studied or worked on influencer marketing topics in class or projects, while 42.7% have not. This shows that more than half of the participants possess prior exposure or experience in influencer marketing, suggesting a growing academic or project-based interest in this field. However, the significant proportion of respondents with no prior exposure (42.7%) highlights a potential gap that could be addressed through targeted awareness programs, workshops, or curriculum integration.

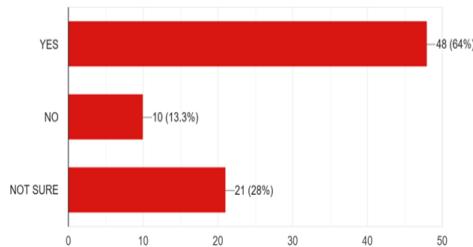
2) Do you use or follow influencers on platforms like Instagram, YouTube, etc.?
75 responses



The survey reveals that a vast majority of respondents (89.3%) follow influencers on platforms like Instagram, YouTube, and others, while only 10.7% do not. This clearly indicates the strong reach and popularity of influencer-driven content among the

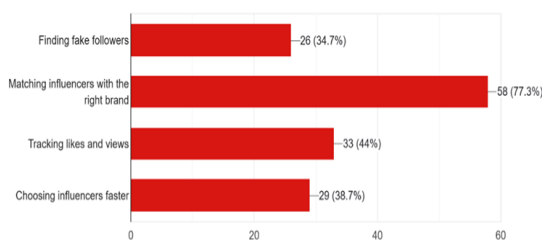
audience. The high percentage of followers suggests that influencer marketing has substantial potential for engagement and brand promotion, whereas the small portion of non-followers represents a relatively minor segment that remains untouched by such content.

3) Do you know that AI tools are used to help brands choose the right influencers?
75 responses



The results show that 48.64% of respondents are aware that AI tools are used to help brands choose the right influencers, indicating a considerable level of awareness about AI's role in influencer marketing. However, 30.13% are not aware of this application, and 21.28% are unsure. This suggests that while nearly half the audience understands AI's involvement, there is still a substantial knowledge gap, with over half of the respondents either unaware or uncertain. This highlights the need for greater education and awareness regarding the technological advancements shaping influencer selection.

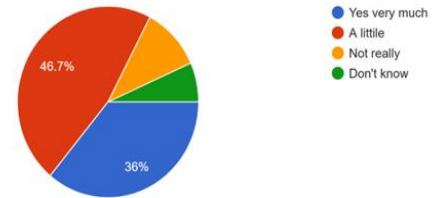
4) Which of the following do you think AI can help with? (Select all you think apply)
75 responses



The responses indicate that the most widely recognized benefit of AI in influencer marketing is matching influencers with the right brands (77.3%), showing that respondents strongly associate AI with enhancing brand-influencer alignment. Tracking likes and views ranks second at 44%, followed by choosing influencers faster (38.7%) and finding fake followers (34.7%). This suggests that while participants are aware of AI's broader capabilities, they primarily

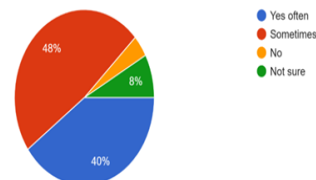
value its role in strategic matching, with less emphasis on its potential for fraud detection and process speed.

5) Do you think AI makes it easier for brands to select influencers?
75 responses



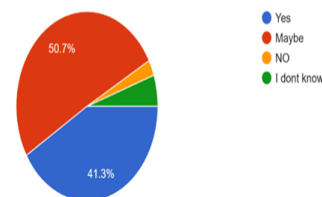
The results indicate that 36% of respondents believe AI makes it much easier for brands to select influencers, while 46.7% feel it helps a little. The remaining 17.3% are split between those who think it does not really make the process easier and those who don't know. Overall, the majority (82.7%) perceive AI as having a positive role in influencer selection, with most seeing it as a moderate enhancement rather than a drastic change.

6) Have you noticed when brands show you influencer content that feels "just right" for you (based on your likes or searches)?
75 responses



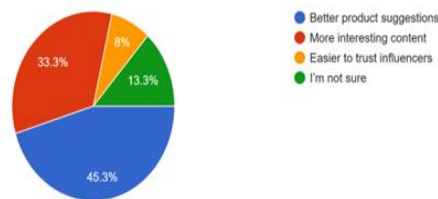
The survey reveals that 48% of respondents sometimes notice influencer content from brands that feels tailored to their likes or searches, while 40% notice it often. A small portion (8%) are not sure, and the remaining 4% have never noticed such content. This indicates that the majority (88%) experience at least occasional personalized influencer marketing, suggesting that targeted content strategies are effectively reaching audiences.

7) Do you think AI helps brands change influencer content in real-time (like showing products based on your interests)?
75 responses



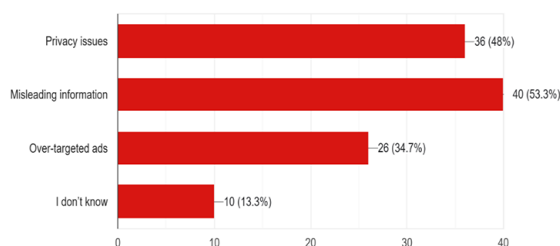
The findings show that 41.3% of respondents believe AI helps brands change influencer content in real time based on user interests, while 50.7% think it might. A small proportion (3.3%) say No, and the remaining 4.7% are unsure. Overall, the high combined share of “Yes” and “Maybe” responses (92%) suggests strong openness to the idea that AI can dynamically adapt influencer content, even if many are not completely certain of its capabilities.

8) In your opinion, what is the biggest advantage of using AI in influencer marketing?
75 responses



The survey results indicate that the biggest perceived advantage of using AI in influencer marketing is better product suggestions (45.3%), highlighting the value respondents place on personalized recommendations. More interesting content comes next at 33.3%, showing that engaging material is also a key benefit. Only 8% believe AI makes it easier to trust influencers, while 13.3% are unsure. This suggests that while personalization and content relevance are strongly appreciated, AI's role in building trust remains less recognized among audiences.

9) What problems do you think can come from using AI in influencer marketing? (Select all you think apply)
75 responses



The data shows that the most commonly perceived problem with using AI in influencer marketing is misleading information (53.3%), followed closely by privacy issues (48%). Over-targeted ads are seen as a concern by 34.7% of respondents, while 13.3% are unsure about potential problems. This indicates that while audiences recognize AI's benefits, they remain cautious about its risks—particularly in terms of

misinformation and privacy—highlighting the need for transparency and ethical practices in AI-driven marketing strategies.

B.Secondary data

Role of AI-powered Instagram influencers driving consumers' purchase intentions: An integration of SMIV & SOR framework

Rohit Dhiman a, Narender Singh Bhati

- AI helps influencers personalize content, predict trends, and engage audiences effectively.
- Based on 391 Instagram users (mostly aged 18–24, students).
- Found that trendiness, involvement, and interaction of influencers significantly improve brand awareness.
- Expertise, trustworthiness, similarity, and interaction increase trust in branded posts.
- Both brand awareness and trust lead to higher purchase intention.

This study introduced and empirically tested a theoretical frame work that integrates the Social Media Influencer Value (SMIV) and Stimulus-Organism-Response (SOR) paradigms to investigate the influence of AI-powered Instagram influencer characteristics on consumer purchase intentions
The Role of Artificial Intelligence in Influencer Marketing

Dr. Muhammad Waqas Rana¹, Mohammad Shahnawaz Ashfaq², Dr. Faizah Yasir Jalbani³

AI helps in campaign planning, content management, and expanding reach through virtual influencers.

Based on 176 respondents (majority graduates and employed).

Examined three factors: perceived quality, celebrity endorsements, and virtual social presence, with AI as a mediator.

All factors showed a positive relationship with influencer marketing.

Virtual social presence had the strongest link to influencer marketing.

The outcomes of the research are discussed in this chapter after the conclusions derived from the interpretations and inferences made from the data collected from the respondents. According to the results of research it has been proved that there are positive impacts of Artificial Intelligence on influencer marketing. The independent variables celebrity endorsements, perceived quality, virtual

social presence and mediator Artificial Intelligence has a positive impact on Influencer marketing. The mediator Artificial Intelligence has significant mediating effects on Dependent variable Influencer marketing.

VIII. FINDINGS

1. Most people (89.3%) follow influencers, showing influencer marketing has a big reach.
2. About half (48.64%) know AI is used to choose influencers; the rest are unsure.
3. The biggest benefit of AI is matching the right influencer with the right brand (77.3%).
4. 82.7% say AI makes influencer selection easier.
5. 88% notice influencer posts that match their interests.
6. 92% believe AI can change influencer content in real time.
7. Best benefits of AI: better product suggestions (45.3%) and more interesting content (33.3%).
8. Main problems: misleading information (53.3%) and privacy issues (48%).
9. Other studies show AI improves brand awareness, trust, and purchase intention, and works best when combined with trendiness, interaction, and virtual social presence.

IX. SUGGESTIONS

1. Teach more people about how AI works in influencer marketing.
2. Make AI-driven influencer campaigns more transparent to build trust.
3. Use AI to keep updating influencer content to match audience interests.
4. Set rules to avoid fake news and protect privacy.
5. Use AI for more things like spotting fake followers and checking audience quality.
6. Use virtual influencers for safe and creative brand campaigns, but keep them authentic.
7. Track long-term results like repeat customers and loyalty, not just likes and views

X. CONCLUSION

This study confirms that Artificial Intelligence (AI) is reshaping influencer marketing in digital commerce by making influencer selection more accurate, content more personalized, and campaigns more data-driven.

Findings show that AI helps brands match the right influencers with the right audiences, adapt content in real time, and enhance consumer engagement. While AI improves brand awareness, trust, and purchase intentions, it also raises concerns about misinformation and privacy, which require ethical guidelines and transparency.

Overall, AI has strong potential to transform influencer marketing from short-term, engagement-focused strategies to long-term, loyalty-driven approaches. For maximum impact, brands should adopt AI responsibly, integrate it strategically across campaign stages, and track not only clicks and views but also retention, advocacy, and profitability. This balanced approach will ensure AI's benefits are fully realized while minimizing its risks.

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- [4] Secondary data from research articles, industry reports, and academic studies on Artificial Intelligence and influencer marketing strategies in digital commerce.