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The impact of AI-powered technologies on social media on businesses in food industry

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Abstract
Social media has transformed from a communication platform into a core channel for product discovery and purchasing, particularly within the food and beverage sector. This research paper investigates how artificial intelligence (AI)-powered technologies influence consumer purchase decisions on social media, focusing on restaurants, packaged food brands, and food delivery services. Drawing on recent industry data and empirical studies, the paper analyzes key AI applications—personalization engine—and their mechanisms in shaping consumer behavior. Findings reveal that AI enhances personalization, reduces decision uncertainty, triggers emotional desire, and aligns offerings with market trends, leading to 15–40% higher sales and engagement. However, challenges including privacy risks and reduced authenticity remain. The study concludes that strategic integration of AI—balanced with human elements and transparency—creates sustainable competitive advantage for food businesses.

Keywords: Artificial intelligence, social media, purchase decision, food business, consumer behavior, personalized marketing, privacy risks

Introduction

Over the past decade, social media platforms (food apps) have become primary touchpoints where consumers discover, evaluate, and purchase food products and services. Recent industry surveys indicate that 76% of consumers report food-related content on social media directly triggers their purchase intent, while 73% state that digital tools make finding new food brands easier and faster (Statista, 2025) [1]. With the rapid advancement of artificial intelligence and smart tools are now embedded in every stage of the consumer journey—from content display and recommendation to customer support and feedback analysis. Unlike traditional mass marketing, AI-driven systems adapt in real time to individual preferences, behaviors, and contexts, fundamentally changing how consumers make buying choices. For food businesses, understanding this influence is critical, as the sector is highly competitive and relies heavily on visual appeal, trust, and convenience.

This paper aims to: (1) identify key AI technologies applied in food-related social media marketing; (2) explain how these technologies shape consumer decision-making processes; (3) present empirical evidence of their impact; (4) discuss risks and limitations; and (5) propose practical strategies for businesses.

Literature Review

1. Social Media and Consumer Purchase Decisions

Social media influences purchase decisions through information exposure, social proof, and interactive engagement. According to Kotler & Keller (2023) [2], consumer buying behavior follows five stages: problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior. Social media shortens this journey by providing instant information, peer reviews, and visual stimuli, often leading to impulse purchases—especially in the food sector, where sensory appeal is a major driver (Chen *et al*., 2024) [3].

2. Role of Artificial Intelligence in Marketing

AI refers to systems that perform tasks requiring human intelligence, such as learning and pattern recognition. Previous research confirms that AI improves marketing effectiveness by enabling hyper-personalization, reducing information overload, and enhancing customer experience (Zhang & Benyoucef, 2023) [4]. However, limited studies focus specifically on the food industry, where product characteristics—taste, safety, health, and freshness—create unique decision-making criteria.

3. Key AI Technologies in Food Business Social Media

Based on industry analysis and literature, few core AI technologies are widely adopted:

a. Generative AI & Content Optimization

AI tools automatically create high-quality food visuals, videos, captions, and recipes. Using computer vision, algorithms also test thousands of image variations to identify which colors, angles, and lighting trigger the highest appetite and engagement. Brands like Starbucks report 35% higher click-through rates after AI content optimization (Adobe, 2025) [5].

b. AI Chatbots & Virtual Assistants

Available 24/7, chatbots answer questions about ingredients, allergens, nutrition, delivery times, and customization. They resolve 70% of inquiries instantly, eliminating delays that often cause purchase abandonment (Gartner, 2024) [6].

Impact of AI on Purchase Decision-Making

1. Reducing Uncertainty & Building Trust

Food purchases involve risk: consumers worry about taste, safety, and quality. AI reduces this risk in three ways:

- **Smart Discovery:** Curated lists (“best local burgers,” “healthy snacks”) replace random scrolling, helping users find trusted options quickly.

- **Social Proof:** Algorithms prioritize real customer photos, top reviews, and ratings—content 2x more trusted than brand advertisements (Nielsen, 2024) [8].
- **Instant Information:** Chatbots remove information gaps, ensuring buyers have all details before deciding.

2. Trend Alignment & Social Conformity

AI identifies viral food trends (e.g., fermented foods, Korean fusion, and plant-based alternatives) and promotes them widely. Consumers prefer choices that are popular or recommended, so alignment with trends makes decisions feel safer and more modern (Katz & Lazarsfeld, 2024) [9].

Empirical Findings & Industry Outcomes

Multiple studies and industry reports confirm measurable positive impacts:

- **Order Value:** AI-driven add-ons, bundles, and recommendations increase average order value by 18–22% for delivery platforms (Food Delivery Association, 2026) [10].

- **Efficiency:** Content creation time is reduced by 40–50%, while posting frequency doubles, lowering marketing costs per customer by up to 30% (HubSpot, 2025) [5].

Challenges & Limitations

Despite benefits, AI adoption creates significant risks:

1. **Privacy Concerns:** around 40% of consumers avoid brands that collect or use too much personal data; lack of transparency erodes trust (Pew Research, 2025) [12].
2. **Over-Personalization:** Excessive filtering limits discovery, creates "filter bubbles," and may feel intrusive or manipulative.
3. **Authenticity Loss:** Overly polished AI-generated content often feels artificial, reducing credibility compared to real user-generated content.

Strategic Recommendations

To maximize benefits while minimizing risks, food businesses should adopt the following strategies:

1. **Balance AI + Human Touch:** Use AI for efficiency, data analysis, and optimization, but keep brand storytelling, community engagement, and customer service human. Authenticity remains the most valuable asset.
2. **Ensure Transparency & Control:** Clearly explain how customer data is used, and provide easy options to adjust preferences or opt out. This increases trust and willingness to share information.
3. **Prioritize Trust & Safety:** Use AI to highlight nutrition facts, ingredients, hygiene ratings, and real reviews—these are the top decision criteria for food buyers.
4. **Start Small & Scale Gradually:** SMEs should begin with low-cost tools (content automation, basic recommendations) before investing in advanced analytics or custom systems.

Conclusion

AI-powered technologies have become a fundamental force shaping how consumers discover, evaluate, and purchase food products through social media. They do not replace consumer choice—they guide, simplify, personalize, and accelerate the decision-making process.

For food businesses, AI is no longer an optional advantage but a necessity to remain visible, relevant, and perhaps profitable.

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