

Collection: The Application of AI in Achieving Zero Food Waste and Sustainability in Hospitality



AI-driven tools such as predictive analytics, smart inventory management, real-time waste tracking, and AI-powered redistribution platforms help optimize food production, storage, and consumption. Machine learning models enhance procurement, portion control, and menu planning, promoting more sustainable food management. AI-enabled computer vision and IoT systems assess food quality, reducing unnecessary waste, while chatbots encourage sustainable dining habits. Blockchain integration further ensures supply chain transparency and ethical sourcing. Despite its potential, AI adoption faces cost, data privacy, and staff training challenges, particularly for small and medium-sized businesses. Regulatory frameworks must evolve to support AI-driven food waste reduction. This collection invites original research, case studies, and reviews on AI's role in demand forecasting, food redistribution, real-time waste monitoring, consumer behavior, and economic impacts. By integrating AI into sustainability initiatives, hospitality can enhance efficiency, reduce waste, and contribute to a more responsible industry future.

This Collection supports and amplifies research related to [SDG 12](#).

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