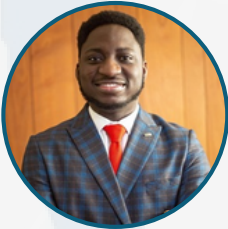


4th INTERNATIONAL CONFERENCE ON
AI ML, DATA SCIENCE AND
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Multi-Agent Systems in Omnichannel Marketing: Coordinating Cross-Platform Campaigns for Seamless Customer Experiences

Abstract: The proliferation of digital technologies and the evolution of consumer expectations have catalysed the shift from isolated channel-specific marketing to integrated omni-channel strategies. This paper delves into the application of multi-agent systems (MAS) within the realm of omni-channel marketing, focusing on their role in coordinating cross-platform campaigns to ensure seamless customer experience. The study begins by defining the theoretical foundations of MAS, drawing from advancements in distributed artificial intelligence and their suitability for managing complex, dynamic systems. The integration of MAS in marketing leverages autonomous agents that can communicate, collaborate, and make real-time decisions across various channels, including online platforms, mobile applications, social media, and physical stores, to enhance customer satisfaction and loyalty.

Omni-channel marketing, which unifies the consumer's journey across multiple touch points, requires strategic synchronisation to maintain a consistent and engaging brand presence. This study highlights the technological enablers facilitating this transformation, including machine learning algorithms, data analytics, and automated coordination frameworks. A review of empirical and conceptual studies illustrates how effective MAS deployment can optimise resource allocation, streamline communication, and dynamically adapt marketing strategies based on consumer interactions.

The findings reveal that the deployment of multi-agent systems supports a cohesive customer journey by seamlessly integrating promotional efforts, transaction management, and personalised service delivery. By synthesising real-time data and responding to consumer behaviour, MAS-driven strategies can offer tailored experiences that align with consumer expectations, foster engagement, and reinforce brand loyalty. Challenges such as data privacy, interoperability, and complexity of system integration are also discussed, providing a balanced view of the advantages and limitations of MAS in omni-channel contexts.

This study contributes to the existing body of knowledge by exploring how multi-agent systems can be harnessed to bridge operational and strategic gaps in omni-channel marketing. Practical recommendations for marketers include the adoption of adaptive agent-based frameworks to ensure uniform customer experience and proactive campaign management. Future research directions call for more granular studies on the interaction between MAS, consumer psychology, and evolving digital ecosystems to further enhance the effectiveness of omnichannel strategies.

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Biography: Michael Akintayo is a results-driven growth marketing professional with a proven track record of driving significant revenue growth through data-driven strategies. With expertise spanning paid social and search advertising, email marketing, and retention marketing, Michael successfully led initiatives that doubled customer acquisition rates, while maintaining cost efficiency. His ability to craft optimised sales funnels and execute targeted campaigns has consistently reduced customer acquisition costs and boosted engagement. Notably, he spearheaded a website optimisation project that lowered bounce rates and improved user interaction, showcasing his proficiency in aligning technical and creative elements to enhance the customer experience.

With an MSc in International Marketing (Distinction) from Robert Gordon University, Michael's foundation is enriched by certifications in content marketing, direct response copywriting, and customer value optimisation. Recognised as the "Networking Maverick of the Year" by Junior Chamber International in Aberdeen (2023), he stands out for his leadership, strategic thinking, and adept communication. Michael's experience includes serving as Growth Marketing Manager at both Marketing Headstart and LIMBsimple, where he excelled in scaling user acquisition and fostering long-term customer loyalty. His passion for innovation and continuous learning drives his mission to deliver impactful marketing solutions that resonate with diverse channels and audiences.