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Omni-channel Retail: Leveraging Machine Learning for Personalized Customer Experiences and Transaction Optimization

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Omni-channel retail is revolutionizing the shopping experience by integrating physical and digital touchpoints to deliver seamless, personalized customer interactions. This study explores the role of Machine Learning (ML) in enhancing omni-channel strategies through data-driven personalization and transaction optimization. Traditional retail models often struggle with fragmented customer journeys, inefficient inventory management, and inconsistent engagement across channels. ML-driven solutions analyze customer behavior, predict preferences, and enable dynamic pricing, real-time recommendations, and targeted marketing campaigns. Additionally, AI-powered analytics optimize supply chain operations, fraud detection, and demand forecasting, improving overall efficiency and profitability. However, challenges such as data privacy, algorithmic bias, and system integration require careful consideration. This paper examines the transformative potential of ML in omni-channel retail, emphasizing its impact on customer experience, operational efficiency, and business growth. By leveraging AI-driven insights, retailers can create a more responsive, efficient, and engaging shopping environment in the digital era.