

# Chapter 5

## AI-Driven Personalization in Beauty Retail: Exploring How AI-Based Applications Influence Customer Satisfaction and Brand Loyalty

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### **ABSTRACT**

*This study explores the evolving beauty industry transformed by technology, focusing on how personalized artificial intelligence (AI) shapes customer experience, satisfaction, and loyalty in online beauty shopping. Through semi-structured interviews with 10 Portuguese female online buyers aged 18-30, it reveals the importance of understanding and meeting customer preferences in a fast-paced digital environment. The research highlights the crucial role of personal experiences and trust in influencing customer satisfaction and loyalty. It examines the impact of AI-based recommendations and interactions at every stage of the online shopping experience. The findings offer valuable insights for beauty brands, emphasizing the necessity to adapt to technological advances, thrive in the digital landscape, and meet consumers' evolving digital aspirations.*

DOI: 10.4018/979-8-3693-5340-0.ch005

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# 1. INTRODUCTION

Technological advances in today's rapidly expanding digital ecosystem are driving dramatic changes across industries (Kumar et al., 2021). From artificial intelligence (AI) to data analytics, these advances are transforming how people interact with companies and utilize products and services (Grewal et al., 2020). The beauty retail industry, in particular, is at the forefront of this digital transformation, embracing new technologies to enhance customer experience and drive business growth (Basker, 2016). Companies are leveraging AI and machine learning to analyze consumer preferences, optimize product recommendations, and increase customer engagement (Lee & Lee, 2020; Pillarisetty & Mishra, 2022). Additionally, Augmented Reality (AR) and Virtual Reality (VR) technologies are revolutionizing beauty retail by enabling customers to test products virtually, improving the shopping experience, and reducing post-purchase dissatisfaction (Mangtani et al., 2020; Wedel et al., 2020).

AI-driven customization techniques significantly impact customer satisfaction, loyalty, and long-term brand engagement in the beauty retail sector (Mangtani et al., 2020). Understanding AI's influence on customer satisfaction and trust is crucial for building brand loyalty (Singh & Ahmed, 2024). However, ethical challenges such as data privacy and transparency must be addressed (Volkmar et al., 2022). Existing literature often overlooks the detailed interaction between AI-driven personalization, customer satisfaction, and brand loyalty, especially in the beauty industry.

This study addresses this gap by examining AI's direct influence on Portuguese female customer satisfaction and loyalty in online beauty retail. It provides valuable insights for beauty retailers to refine their strategies and thrive in the competitive digital landscape, focusing on emotion, satisfaction, and potential issues related to AI-based marketing solutions. It seeks to understand how AI-driven customization impacts consumer behavior and brand interactions in the digital age.

The main objective of the study is to explore the role of AI-driven personalization in Portuguese female buyers' satisfaction and loyalty in beauty retail, by considering their attitudes, behaviors, concerns, and specific strategies for shopping online experiences.

The specific objectives are four:

- To explore female buyers' views on the evolution of functionality and the influence of AI technology in the online beauty retail sector
- To understand the particular processes by which AI-driven customization influences Portuguese female buyers' relation with their online purchasing experiences in beauty retail.

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