Chapter 2
AI Bias in Marketing: Challenges, DEI Concerns, and Mechanisms for Ethical Innovation

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ABSTRACT

Artificial Intelligence is changing modern marketing through personalized engagement, trend prediction, and large-scale content generation. As generative models spread across advertising, consumer analytics, and creative work, worries about bias, fairness, and representation are increasing. When AI is trained on unbalanced data, it can reinforce stereotypes, misrepresent cultural identities, or ignore marginalized groups. This creates ethical and commercial risks related to DEI. Biased systems can damage consumer trust, harm brand reputation, and clash with new regulatory standards. This chapter looks at how bias shows up in marketing systems, why it matters, and what technical, organizational, and regulatory methods can promote more inclusive AI practices. It draws from literature, industry cases, and fairness frameworks. It outlines strategies like auditing datasets, designing inclusively, ensuring human oversight, and improving governance. Ultimately, it views DEI as the ethical basis for responsible AI marketing that can handle future challenges.

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1. INTRODUCTION

Artificial Intelligence (AI) is rapidly changing marketing. It allows for precise targeting, automated decision-making, and scalable creative production. As algorithms manage more brand-consumer interactions, marketing relies more on data insights and predictive modeling instead of human judgment (Kietzmann et al., 2018; Rust, 2020). Generative AI speeds up this change by creating text, images, and design assets on a massive scale. This offers greater efficiency but also raises ongoing concerns about fairness, representation, and cultural sensitivity.

This technological progress presents a key paradox. The same systems that enable better personalization and creative flexibility may also reinforce inequalities found in historical and digital data (Bender et al., 2021; Crawford, 2021). Without careful oversight, AI models trained on non-diverse datasets can misrepresent identities, marginalize vulnerable groups, or produce outputs that continue harmful stereotypes. These issues are particularly important in marketing, where visibility and cultural impact are significant (Sheng et al., 2021; Suresh & Guttag, 2021).

1.1. AI's Transformative Role in Marketing

AI has become essential to marketing strategy. It influences segmentation, pricing, promotional optimization, and customer relationship management ((Haridasan et al., 2025). Predictive analytics improves marketers' ability to identify customer needs, optimize user journeys, and deliver relevant content in real time (Kietzmann et al., 2018; Wedel & Kannan, 2016). Machine learning models track patterns across millions of data points. This enables detailed personalization that far exceeds traditional marketing analytics (Odlin & Benson-Rea, 2021; Rust, 2020).

Generative AI deepens this change. It helps with scalable idea generation, copywriting, product visualization, and testing creative variations. This allows marketers to quickly experiment with different stories and visual concepts (Dwivedi et al., 2023; Huang & Rust, 2022). However, this power comes with risks. Generative systems can unintentionally reinforce biases found in their training data. This can lead to content that reflects oversimplified or distorted cultural views (Bender et al., 2021; Luccioni et al., 2023).

In marketing, where imagery, language, and symbolism matter greatly, these issues can cause representational harm, misinterpretation, or cultural exclusion.

1.2. The Rise of Generative AI and Its Dual Promise

Generative AI offers new creative possibilities. It makes content production easier and speeds up campaign development. Its advantages include low production costs,