# Chapter 10
# Fair and Inclusive Customer Segmentation in AI-Driven Marketing

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## ABSTRACT

*This chapter explains how artificial intelligence has evolved customer segmentation from a marketing tool into a socio-technical decision mechanism with implications for fairness, inclusion, and cultural representation. In the chapter, algorithmic segmentation is analyzed using clustering methods, explainable frameworks such as LIME and SHAP, and fairness metrics to identify or alleviate structural bias in multicultural markets. It discusses accuracy fairness trade-offs, transparency, emotional trust, and organizational capability gaps, especially when segmentation outputs flow into generative AI driven personalization. Through case studies on multicultural targeting, AI sales agents, misinformation flows, and exclusion in finance, employment, and welfare, the authors show how segmentation systems affect society. The chapter concludes with strategic, ethical, and policy recommendations for responsible, inclusive AI marketing grounded in fairness aware segmentation.*

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## 1. INTRODUCTION

AI is no longer peripheral but a core part of marketing automation, personalization, and audience targeting, with such diverse applications as customer segmentation at the forefront. Customer segmentation allows companies to differentiate customers according to their behavior, as well as demographic and transactional information, enabling much improved strategic decision making. These factors constituted improvements in the computing power and reduction in data processing costs, plus the dramatic increase in big data repositories, which together facilitated many more sophisticated applications of machine learning in marketing (Huang & Rust, 2021).

AI is expected to concern marketing activities and relationships in the future, becoming, in its capacity to analyze data at scale and make automated decisions, one of the best allies (Jarek & Mazurek, 2019; Hermann, 2022). AI has emerged as a disruptive agent across industries as regards designing processes by businesses, engaging customers, and creating value digitally (Kumar et al., 2024). Nevertheless, despite all that growth, properly systematic and in-depth inquiry into the ethical and societal implications of AI driven consumer markets is yet very limited (Verma et al., 2021). In addition, there is worsening ongoing research indicating that AI systems unintentionally reproduce or exacerbate real world biases in their data, which emphasizes the need for urgent attention to their fairness aware design in digital ecosystems (Mehrabi et al. 2022). In the global digital market, the deployment of advanced marketing technologies has to consider cultural heterogeneity, regulatory diversity, and consumer behaviour specific to context when operating across multicultural environments (Tarnanidis & Vlachopoulou 2025).

The machine learning methods, like K-means clustering, can be also found application in grouping customers into quite meaningful segments, identifying behavioral patterns that more significantly repeated individual shares (Alijoyo et al., 2025). LIME type explainability tools allow public and cultural responsiveness of targeting by revealing the way some factors such as age, income, or cultural preference affect the segmentation outcome (Alijoyo et al., 2025).

However, AI systems are capable of being discriminatory to several degrees, mostly using quite skewed historical data for training (Hermann, 2022). This has raised ethical concerns both about the customer and the organization as well as society. Principles like transparency, justice, fairness, responsibility, and privacy characterize ethical grounding for AI deployment in marketing (Hermann, 2022).

While seated within an overall agenda of GenAI driven decision making towards DEI, this chapter calls for fairness to be built into AI customer segmentation systems. These fairness constraints demographic parity, equalized opportunity, and subgroup fairness can be integrated into clustering or classification models such that predictive accuracy can walk with inclusion.