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Algorithmic Pricing and Consumer Welfare: An Analysis of Economic, Sociocultural, and Digitalization Impacts

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Abstract

Algorithmic pricing systems have emerged as a powerful tool for firms to optimize pricing strategies by analyzing consumer-specific attributes such as purchasing history, income, and location. While these systems enhance market efficiency, they also raise ethical concerns about exacerbating socioeconomic disparities through discriminatory pricing practices. This study explores the dual impact of algorithm-driven price discrimination on consumer welfare, focusing on how economic constraints, cognitive biases, and digitalization intersect consumer outcomes. By synthesizing empirical findings, we examine how algorithmic pricing disproportionately affects low-income consumers, exploiting cognitive biases like anchoring and default options to nudge purchasing behavior. Additionally, we assess the implications of data aggregation and predictive analytics, highlighting the risks of reduced transparency and data privacy. The findings further underscore the need for regulatory frameworks to address the unintended consequences of algorithmic pricing, ensuring that market efficiency does not come at the expense of consumer welfare. Policy recommendations emphasize the need for enhanced regulatory frameworks that mandate transparency in algorithmic pricing, strengthen data privacy protections, and implement algorithmic audits to deter exploitative practices. Furthermore, public education initiatives targeting financial literacy can empower consumers to navigate algorithmic pricing tactics more effectively, fostering a fairer and more equitable digital marketplace.

Keywords: Algorithmic Pricing, Consumer Welfare, Data Privacy, Price Discrimination