Reading Against the Tide: Predicting Literary Preferences Through Consumer Sentiment Using Mixed-Effects Machine Learning

Park, Joonho (School: Ithaca High School)

As reading habits among U.S. students decline, various interventions have been proposed, yet many overlook the role of economic conditions on reading behavior. This research investigated how consumer sentiment, measured by the University of Michigan's Survey of Consumers, influences literary preferences. Using Goodreads.com review data from 2017 to 2023, I examined books recommended to middle and high school students in New York State, using review volume as a proxy for literary interest. To predict literary preferences, I applied the mixed-effects modeling framework, including linear models and the GPBoost algorithm—a machine learning technique for enhanced predictive power. The results indicates that the GPBoost algorithm outperformed linear mixed-effects models in predicting literary preferences. Consumer sentiment significantly influenced literary preferences, with reading interest increasing as sentiment declined. This relationship was nonlinear, effectively captured by GPBoost, which can identify complex patterns that linear models may overlook. Importantly, genres varied not only in their baseline preferences but also in their sensitivity to economic shifts, indicating that not all genres were equally affected. For instance, genres like literary fiction and coming-of-age fiction exhibited increased engagement during periods of low sentiment, while genres like non-fiction and children's literature remained relatively stable. These genre-specific responses to sentiment shifts were more predictive of literary preferences than genre alone, highlighting that economic conditions shape not only how much people read but also what they read. These insights offer valuable guidance for educators and policymakers aiming to support literacy during economic changes.

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