

MISQ Archivist

Mobile App Analytics: A Multiple Discrete-Continuous Choice Framework

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Abstract

The number of mobile apps launched in the market has exponentially grown to more than 2 million, but little is known about how users choose and consume apps of numerous categories. This study develops a utility theory-based structural model for mobile app analytics. We use the theoretical concepts of utility and satiation along with the factor analytic approach as bases in simultaneously modeling the complex relationships among choice, consumption, and utility maximization for consumers of various mobile apps. Using a unique panel data set detailing individual user-level mobile app time consumption, we quantify the baseline utility and satiation levels of diverse mobile apps and delineate how app preferences and consumption patterns vary across demographic groups and how they are affected by persistent use and time trends. The findings suggest that users' baseline utility substantially diverges across app categories and that their demographic characteristics and habit formation explain the appreciable heterogeneity in baseline utility and satiation. These parameters also exhibit positive and negative correlations in mobile websites and app categories. Our modeling approaches and computational methods can unlock new perspectives and opportunities for handling large-scale, micro-level data, while serving as important resources for big data analytics and mobile app analytics.

Keywords: Mobile analytics, mobile web and apps, time use modeling, satiation, interdependence, structural econometrics