The Relationship between Mobile Web and Mobile App Channels for Retailers

TREO Talk Paper

Ziqing Yuan
City University of Hong Kong
zqyuan2-c@my.cityu.edu.hk

Hailiang Chen
City University of Hong Kong
hailchen@cityu.edu.hk

Abstract

As shopping online has skyrocketed over the years, so does purchasing on mobile. Among customers surveyed by UPS (2016), one in four customers have made purchases more often on their mobile devices. Mobile commerce provides great new opportunities for retailers’ business growth. In today’s mobile commerce, mobile web and mobile app are the leading two types of mobile channels for retailers to engage with customers.

Yet debates exist on whether a retailer should invest in either mobile web or mobile app, or both. On the one hand, mobile app enables retailers to integrate all kinds of functionalities that may not be viable in a mobile web. According to comScore (2017), smartphone users spent 87% of their mobile media time on mobile apps but only 13% on the mobile web in June 2017. However, 61% of time spent on smartphones is attributed to only one mobile app (comScore 2016), which implies that it is difficult for an average app to attract many users. On the other hand, mobile website provides a broader customer reach for retailers. Most of smartphone shoppers use search engines to browse product information in stores (Google 2013), but the conversion rate of mobile website shoppers is relatively low (Criteo 2017). To maximize reach and revenue, a retailer thus should allocate their resources properly between mobile app and mobile web, given that developing and maintaining either a mobile web or a mobile app involves substantial costs.

Despite the importance of this issue in the evolving mobile commerce, no prior study has empirically examined the interaction between the mobile app and mobile web channels for retailers. Our study aims to answer this question and also attempts to infer a causal relationship through a natural experiment. Data on mobile channel usage are purchased from comScore, whose Mobile Metrix product captures mobile users’ behavior on both mobile apps and mobile webs for different mobile devices (smartphones vs. tablets) at the retailer/month level. The study period is from July 2014 to June 2017.

To study the interaction between these two mobile channels, we evaluate how a change to one channel affects itself (if applicable) and the other channel. Specifically, we focus on two types of events, mobile website optimization (i.e., optimizing a retailer’s website for mobile access) and mobile app launch. To identify the exact date of mobile website optimization for each retailer, we rely on the historical daily screenshots of various retailers provided by CompetitorScreenshots.com. The mobile app launch dates are available in mobile app stores and/or on retailers’ official website.

These two types of events are potentially endogenous. To infer a causal relationship, we further utilize an exogenous event (also a natural experiment) that is uncorrelated with any retailer’s specific situation. On February 26, 2015, Google announces that it would include mobile friendliness as a ranking signal in its search algorithm for mobile websites starting from April 21, 2015 (Google 2015). This change introduced by Google makes it easier for mobile-friendly websites to acquire more users than non-mobile friendly websites. We investigate how this exogenous event influences the demand for retailers’ mobile apps and how the effect varies between retailers with mobile-friendly websites and those not. This analysis could causally infer whether these two mobile channels complement or substitute each other. To conclude, this study contributes to the literature of multi-channel management in mobile commerce and provides important managerial implications for retailers on how to better leverage the growing mobile channels.