

THE EFFECT OF PRICE ON ADD-ON DEMAND IN FREEMIUM GAMES

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Abstract

We investigate the effect of price on add-on demand in freemium mobile games. In the freemium model, consumers can download and play a portion of the game for free, but they must make in-app purchases to acquire add-ons that will enhance their gaming experience. Since in-app purchases are the primary revenue source for many freemium game publishers, understanding price effects on add-on demand is crucial for their pricing decisions. However, estimating price responses in freemium games is challenging due to several factors: limited data availability, minimal temporal variation in add-on prices, and the need to address game and add-on heterogeneity. Leveraging detailed data from a mobile game marketplace and adopting a copula-based endogeneity correction approach, we estimate the effect of price on add-on demand while accounting for these heterogeneities. Our estimated price elasticities of add-on demand and conversion rate are -0.94 and -0.97, respectively. Decomposing the price effect, we find that the price elasticity for the number of paying users is -0.97, while the elasticity of purchase quantity per paying user is not significant. These findings suggest that price elasticity of demand is almost unit-elastic and lower prices increase add-on demand primarily by attracting more paying users rather than by increasing purchases per user. Our results provide valuable insights for game publishers in optimizing their pricing strategies.

Track: Quantitative, Modelling and Analytics Studies