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Platform competition in the tablet PC market: The effect of application quality

Thanh Doan, Fabio Manenti and Franco Mariuzzo

KEYWORDS:

Android, indirect quality effect, iOS, mobile application, tablet demand.

BACKGROUND

- The tablet PC market is dominated by two platforms adopting different business strategies. One is the closed iOS-based platform, which is vertically integrated by Apple. The other is the open Android-based platform, in which Google licenses the operating system for free to other competing producers.
- The variety of applications available in the Apple and Google online stores is so extensive that the effect of increasing the number of applications on the tablet market could have negligible effects. By contrast, application quality, rather than variety, can play an important role in driving the tablet market. What the impacts of application quality are and whether these are asymmetric between the two platforms are still open questions.
- It is commonly recognized that the wide availability of applications represents one of the explanations for the growth in the demand for tablets; nonetheless, an empirical evaluation of the exact role of applications in the tablet demand is still missing.
- From a policy point of view, it is important to understand the effect of quality control on asymmetric platform competition, as well as understand the implications of full interoperability.

METHODOLOGY

- We first introduce a simple theoretical analysis aimed at representing the impacts of application quality on the strategic interactions among the two incompatible platforms.
- We combine three waves of product-level data for tablets and applications distributed in five European countries (Germany, France, Italy, Spain, and the UK) over the period September 2013-February 2014.
- We use a structural estimation of demand and supply to quantify the effects of application quality on tablet demands.
- We employ a GMM estimator combining instruments suggested in previous literature with new instruments from regression tree analysis to deal with the endogeneity of the price, the within-market share, and application quality.
- Finally, with two counterfactuals, we study the impacts on the tablet market when first, platforms exclude the lowest quality applications and, second, platforms are forced to be interoperable.

KEY FINDINGS

- The tablet market is significantly affected by the quality of applications.
- The exclusion of low-quality applications leads to the gain for both platforms in terms of market shares and profits, with larger gains for Apple.
- The platform with lower quality applications gains higher market shares and profits from cross-platform application interoperability.

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POLICY ISSUES

- The platform policy of excluding low-quality applications generates profits for both platforms, with higher gains for Apple. This result explains why in Apple's App Store, the distribution of apps undergoes a much stricter quality check than in Google Play. This governance policy by platforms ensures that tablet users enjoy higher quality applications, and this enhances consumer welfare.
- The policy of forcing interoperability across platforms would favour tablet producers of the platform with lower average application quality (Android), as this would increase the average quality of applications available to Android users, pushing the demand in favour of Android tablets. Interestingly, this policy would also improve consumer welfare since Android users benefit from a better quality of available applications.

SUGGESTED CITATION

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ABOUT THE AUTHOR

- Thanh Doan is a Ph.D. student at the School of Economics and a member of the Centre for Competition Policy, University of East Anglia.
- Fabio Maria Manenti is an Associate Professor at the Department of Economics and Management, University of Padua.
- Franco Mariuzzo is an Associate Professor at the School of Economics and a member of the Centre for Competition Policy, University of East Anglia.