

Adoption Decision of Content Providers When Mobile Telecom Carriers Provide Sponsored Data Plans

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Abstract

Mobile telecom carriers (MTCs) design and provide sponsored data plans (SDP), allowing Internet content providers (CPs) to pay for the total data traffic or subsidize the corresponding charge of mobile consumers or end-users (EUs) to access the carriers network platform. We develop an economic model to analyze the market conditions where MTCs and CPs should provide or adopt sponsored data plans. We consider nonlinear usage-based price charged by an MTC to EUs and CPs. We analyze the optimal decision space for a monopoly MTC when there is a monopoly CP or two duopoly CPs. We also analyze CPs' optimal decision conditions. Our results show that the MTC's discount to CPs should not be too big. CP's discount to advertisers depends on the effect of sponsored data plan. The conditions for maximizing social welfare is not always consistent with MTC's or CPs' optimal decision subspaces.

Keywords: Sponsored Data Plan, Content Provider Competition, System Welfare, Game Theory, Pricing Discrimination