

# Marketing Colloquia

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**Tuesday, October 10, 2013**

**Where:** 741 JMHH

**When:** 3:00 PM to 4:20 PM

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## **Designing Freemium: a Model of Consumer Usage, Upgrade, and Referral Dynamics**

**ABSTRACT:** Over the past decade “freemium” (free + premium) has become the dominant business model among internet start-ups for its ability to acquire and monetize a large install-base with limited marketing resources. Freemium is a hybrid strategy where a firm offers both a perpetually free but limited version of their service, and a premium version with enhanced features that require a fee, and where firms regard the free product as a promotional tool. The model leads to several questions interesting to marketers, which we explore in our framework. How much value should the free product provide to consumers relative to the premium product, given the inherent cannibalization effect? What is the right referral bonus incentive to offer to customers? How does sharing influence customers' likelihood of upgrading to the premium product? 1) How much should be spent to acquire free consumers? (Value of a Free Consumer) 2) What is the appropriate level of incentives to encourage adoption and how much do the referrals account for the value of the consumer? (Value of Referrals) 3) How should firms dynamically design referral incentives to maximize upgrade and usage behavior? (Dynamic Design of Referral Incentives) We develop an empirical microfoundations-based framework to understand dynamics of consumer behavior of plan choice, usage, and referral in the freemium setting and apply it to a novel panel data set from a leading cloud-based storage service. Using Bayesian methodology, we estimate the structural model and perform counterfactual analysis. We find that the value of free consumers is approximately \$24 per year, and that the existence of the referral program contributes to 65% of this value -- signifying the importance of the referral program. In addition, we conduct profit maximization simulations, and we observe an asymmetry in the magnitude of the change in upgrade rates as we increase and decrease prices. Lastly, we explore simulations to maximize the average consumer referral rate by changing the referral incentives. Contrary to the belief that more is better, we find the existence of an optimal incentive point for referrals. Thus, we are able to characterize both the individual value of consumers to the firm as well as the network value of customers, providing a mechanism to capture the impact of consumer-to-consumer interactions.