An Empirical Study of Online C2C Platforms in China

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Background

Consumer-to-consumer (C2C) platforms such as eBay, Amazon’s Marketplace, and Taobao have become a major engine of growth in Internet commerce. This is especially true in countries such as China, South Korea and India, which are experiencing a big rush towards electronic commerce. For example, www.taobao.com, the world’s largest online C2C platform based in China, started in May 2003 and now has 7.1 million sellers and 435 million buyers. Every day, 359,459 new buyers, 13,858 new sellers and 8.79 million new items are added into the platform. Each day there are 728 million unique items on shelf for sale and 75 million unique viewers, generating 13 million transactions and 1.61 billion yuan ($258 million) revenues. On 11/11/2012, the Singles’ Day promotion, the daily revenue reached 5.63 billion yuan (or $92 billion). The emergence of such platforms gives us a unique opportunity to investigate the evolution of such platforms by focusing on the growth of both buyers and sellers and studying the relative contributions of network and non-network factors to the growth of buyers and sellers as well as the nature of network effects over the platform’s lifecycle.

Since the seminal work of Rochet and Tirole (2003,2006), a number of theories have been developed on platform economy and two-sided markets (e.g., Caillaud and Jullien 2003, Armstrong 2006, Aloui and Jebsi 2010, Hagiu 2009). However, empirical work has been limited to “conventional” or offline industries, such as video games, PDAs, VCRs, the media industry (TV, newspaper, and magazines), payment systems, and yellow pages (e.g., Ohashi 2003, Rysman 2003, 2007, Nair, Chintagunta & Dubé 2004, Wilbur 2008, Dubé, Hitsch & Chintagunta 2010, Liu 2010, Jin and Rysman 2012, Augereau, Greenstein & Rysman 2006, Rajiv, Sun & Chu 2013). No
empirical work has studied the two-sidedness of online C2C platforms, primarily due to data unavailability. Studies based on data from www.eBay.com, the largest C2C online platform in the U.S., focus on eBay’s auction system and recommendation system, not its platform nature, i.e., how the installed base of buyers affect sellers and vice versa. In this project, we plan to fill the void of empirical research on online C2C platforms by studying www.taobao.com. We investigate the evolution of the platform both from the buyer’s and the seller’s perspectives, and the nature of buyer and seller interactions over the platform’s lifecycle, which will be accomplished via analyzing buyers and sellers’ revealed preferences, i.e., their registration, sales and purchase behavior. We further explore the underlying mechanisms of the platform’s growth and the implications for other Asian countries (and one western country) by surveying consumers from China, South Korea, India and USA, i.e., via their stated preferences.

Specifically, we study the following questions:

1) How large is the cross-network effect (CNE) on both sides of online C2C platforms? This is to quantify the magnitudes of CNE, i.e., the impact of the installed base of sellers on the growth of buyers, and the impact of the installed base of buyers on the growth of sellers. These two CNEs are likely to be asymmetric, and their relative magnitudes are likely to change over the platform’s lifecycle.

2) How do network and non-network factors (product variety, product price, and quality) affect the growth of the two sides of online platforms? This is to measure the relative contributions of different factors to the growth of buyers and sellers on the platforms, and the dynamic evolution of the relative contributions over the platform’s lifecycle.

3) What is the nature of CNEs over the platform’s lifecycle? This is to investigate how the CNE on both sides of the platform evolve over the platform’s lifecycle.

4) What are the underlying mechanisms for the growth of buyers and sellers, as well as for the relative contributions of network and non-network factors?

**Research Objectives**

This study will help address three important management issues that Taobao has been struggling with, and provide a theoretical rationale for Taobao’s ongoing strategic shifts. Given Taobao’s
scale and quick development, a better understanding of Taobao will have rich implications for online C2C platforms in other countries. Further, this study will help uncover the underlying reasons for buyers and sellers to interact in an online C2C marketplace, which will provide valuable guidance similar websites in other Asian countries.

1) Which side of the platform is more important to Taobao, the buyer or the seller? Answering this question will directly affect Taobao’s policy making and the platform’s further development. Taobao has been over-protective of buyers, even at the interest of sellers. For example, Taobao sellers do not have the right not to sell. The current policy requires that the seller fulfill all placed orders. Taobao also uses a two-way evaluation system that allows buyers and sellers to review each other after each transaction, and buyer’s evaluation of sellers is believed to play an important role in seller’s survival and growth. This creates a huge number of professional “bad buyers” who buy only to “extort” sellers. If our research finds that buyers are more important than sellers, such a practice might be justified. If the opposite is found, Taobao may think about changing its current policies to a more balanced approach.

2) What is the key differentiator between Alibaba’s C2C site, Taobao.com, and its B2C site, tmall.com, such that the two platforms can coexist and prosper together? Taobao Mall became an independent business unit as Tmall.com in January 2012. Alibaba believes that Tmall.com is still at infancy while Taobao is already mature, so Taobao uses its huge user base to support Tmall.com by an asymmetric search engine: buyers can search all Tmall sellers and items on Taobao.com, but not vice versa. As a result Tmall.com is growing so fast that it could directly compete with Taobao for buyers. Taobao management has realized the importance of product variety and taken it as a key differentiator from Tmall, but it does not know how important product variety is. This study will help quantify the importance of product variety on Taobao’s growth.

3) Whether should Taobao continue to use the push strategy, or use the pull strategy for its further growth? Taobao management debated the effectiveness of advertising Taobao in other websites and offline channels. According to the theory on two-sided markets, in the
presence of a positive cross-network effect, when the installed base of buyers and sellers reaches a (critical) threshold, the platform reaches “equilibrium,” requiring little regular attention. There is considerable debate among Taobao’s management as to whether to invest in acquiring new customers (via significant advertising expenditure) or to revitalize its customer base. Our study will help shed light on this debate, allowing Taobao the most effective use of its marketing resources.

4) What are the underlying reasons for buyers and individual sellers to register and interact online and the implications for other Asian countries? In many Asian countries, there are many impediments for online transactions between individual buyers and individual sellers. What are buyers and sellers’ perceptions of online C2C transactions, including mutual trust, transaction security, fairness, online payment, product quality, delivery reliability, buyer protection mechanisms, seller protection mechanisms, bargaining power, and so on? How do these factors affect buyers and sellers’ tendency to register and transact online? Are there any common factors across Asian countries, and specific factors for each country?

References


