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Study on Competitive Strategy of B2C Platform

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Abstract: The article builds a competitive model of the incumbent and later entrant, considering the case of single-homing and multihoming. Results show that the conditions that later entrant platform profits exceed incumbent platform are the same under the case of single homing and multihoming. At the same time, the later entrant should turn to charge rather than subsidizing enterprise when two platforms get an equilibrium. Later entrant platform can focus on improving user's evaluation of one side if it wants to exceed the incumbent in profits. Finally, the case of Tmall and Amazon China in B2C market is discussed.

Keywords: two-sided market, B2C platform, competition strategy

1. INTRODUCTION

Along with the tremendous growth in B2C market, the concentration of market increases constantly. Tmall captures more than half of market and occupies the leading position in domestic B2C market since 2011. However, other B2C platforms, such as Amazon China accounts for a small part of market. Online shopping competition develops consistently, and the question whether Amazon China, as a later entrant representative, can exploit follower advantages and achieve performance breakthrough is the keystone of the study.

Platform competition has been studied extensively, and much of the literature focuses on pricing strategy of single platform, such as strategy of fee structure^[1-4] and multihoming^[5-7]. Several studies investigate the issues of competitive coexistence between platforms. Shapiro and Varian (1999)^[8] explain the causes of winner-take-all in networked market based on network effects, namely, there will be only one winner in the end when two or more companies are competing for a big market with positive feedback. Sun and Tse (2007)^[9] discuss the coexistence condition of two competition networks in two-sided market. It is easier to emerge an only winner in a market with single-homing while market with multihoming tends to coexist. Goettler and Gordon (2014)^[10] use a dynamic oligopoly model to examine the relationship between competition and product innovation and find an inverted-U relationship between product substitutability and innovation. Innovation benefits increase initially for enterprises. However when the market tends to be a winner-take-all one, laggards will abandon pursuit of the leader for the reason of few residual profits to fight. Other papers investigate market positioning strategy of later entrants. Bardey and Rochet (2010)^[11] take risk factor into account and argue that heterogeneity of patient risk level provides a differentiated positioning opportunity for medical institutions. Medical institutions can successfully enter the market as long as its positioning strategy is reasonable. Based on the study of Bardey and Rochet, Fu (2011)^[12] brings risk factor to bank card market and analyzes price strategy of China UnionPay and VISA. Results show that winner-take-all is not necessarily normal in bank card market which share the characteristics of two-sided market. Later entrant will find niche market whenever its market positioning and price structure are reasonable. Kim and Tse (2011)^[13] study the strategy of later knowledge-sharing websites and consider the influence of accumulated knowledge, complexity of questions, and price structure of advertising on survivability of a later comer. Paper shows that the longer the life span of accumulated knowledge, the higher the chance of survival of the late comer. Eisenmann et al. (2011)^[14] consider the barrier to enter for a potential entrant because of network effect, trying to explore the conditions under which envelopment strategies are likely to succeed. Research indicates that platform can envelope incumbent platform and take market share of rivals by

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bundling two platforms function together. Zhu and Iansiti (2011)^[15] discuss the competition based on platform quality and installed base between two platforms, which is a later entrant and an incumbent without outstanding superiority. A dynamic game is developed and results indicate that installed base does not necessarily present barriers to entry. Mcintyre and Chintakananda (2014)^[16] think that entrepreneurs seeking to enter a market affected by network effects need to solve three major problems before making entry decision. The first one is where is the network effects from in this market? The second is what is the strength of network effects in a given market? The last is whether there is a dominant standard that has already locked in the market?

Those studies are mainly aimed at competition between platforms with feature of two-sided markets, while few work for B2C platform competition. Unlike prior studies, we principally research on the competition strategy of B2C platform. Enterprises and consumers are the two sides in B2C platform. Their asymmetrical status makes B2C platform different from other platforms in two-sided markets. Ma and Liu (2013)^[17] compare three B2C platforms revenue by building both static and dynamic pricing models. Findings reveal that revenues of platforms are consequently different because of their price structure. However the study focuses on the effect of price structure. In this paper, an asymmetric duopoly situation is considered to model competition between an entrant and an incumbent platform, where platform 1 is characterized by a larger market. In the cases of single-homing and multi-homing, we want to know whether it is possible for later entrant platform to exceed the incumbent in profits. There are no fees for customers in B2C platform, such as Tmall, Jingdong Mall and Amazon China. So we assume that platform charge no fees to consumers. The incumbent charges a fixed fee to enterprises while later entrant subsidizes the enterprises.

2. THE MODEL

We assume that there are two platforms in B2C market. Platform 1 is the incumbent and platform 2 is later entrant. N_{c1} and N_{c2} are the number of consumers of platform 1 and platform 2, respectively. N_{s1} and N_{s2} are the number of enterprises of platform 1 and platform 2. V_1 and V_2 represent the service level of platform 1 and platform 2 ($V_i > 0, i = 1, 2$). λ_c and λ_s denote the evaluation coefficient of platform 1 and platform 2 for consumers and enterprises, where $\lambda_i \in [0, 1]$. User will not join one platform when $\lambda_i = 0 (i = c, s)$. α_c and α_s denote the cross network externality coefficient ($\alpha_i > 0, i = c, s$). P_{s1} represents that the incumbent charges a fixed fee to the enterprises. P_{s2} represents that later entrant subsidizes enterprises ($P_{si} > 0, i = 1, 2$).

$$U_{c1} = \alpha_c N_{s1} + \lambda_c V_1 \quad (1)$$

$$U_{c2} = \alpha_c N_{s2} + (1 - \lambda_c) V_2 \quad (2)$$

$$U = \alpha_c + \lambda_c V_1 + (1 - \lambda_c) V_2 \quad (3)$$

Formula (1), (2), (3) represent the utility when consumers join platform 1, platform 2 and both platforms, respectively, where consumer network effects is denoted by $\alpha_c N_{si}$, the perceived service utility of platform 1 for consumer is denoted by $\lambda_c V_1$ and the perceived service utility of platform 2 for consumer denoted by $(1 - \lambda_c) V_2$.

$$U_{s1} = \alpha_s N_{c1} + \lambda_s V_1 - P_{s1} \quad (4)$$

$$U_{s2} = \alpha_s N_{c2} + (1 - \lambda_s) V_2 + P_{s2} \quad (5)$$

$$U = \alpha_s + \lambda_s V_1 + (1 - \lambda_s) V_2 + P_{s2} - P_{s1} \quad (6)$$

Formula (4), (5), (6) represent the utility when enterprises join platform 1, platform 2 and both platforms, respectively, where enterprise network effects is denoted by $\alpha_s N_{ci}$, the perceived service utility of platform 1 for enterprises is denoted by $\lambda_s V_1$ and the perceived service utility of platform 2 for enterprise denoted by $(1 - \lambda_s) V_2$. A consumer will join platform 1 rather than platform 2 if $U_{c1} > U_{c2}$, and vice versa. Similarly, an enterprise will join platform 1 rather than platform 2 if $U_{s1} > U_{s2}$, and vice versa.

2.1 Platform competition in the case of single-homing

User can only choose to join one platform and make sure that utility is always positive, that

is $U_{c_i} > 0 (i=1,2)$ and $U_{s_i} > 0 (i=1,2)$. We assume that market is completely covered^[18], so $N_{c_1} + N_{c_2} = 1$ and $N_{s_1} + N_{s_2} = 1$ are satisfied. In the case of single-homing, we think of a Hotelling type of model where a mass 1 of enterprises are uniformly distributed on a $(0, 1)$ interval. Let's suppose that platform 1 is located at 0 and platform 2 is located at 1. t represents a transportation cost proportional to their distance with platform 1 and platform 2. It is used to reflect the degree of difference between platforms and the greater the t , the stronger the heterogeneity. Then the utility function derived from an enterprise located at x of platform 1 and platform 2 can be expressed as following formula (7).

$$\begin{aligned}\Phi_{s_1} &= \alpha_s N_{c_1} + \lambda_s V_1 - P_{s_1} - tx \\ \Phi_{s_2} &= \alpha_s N_{c_2} + (1 - \lambda_s) V_2 + P_{s_2} - t(1 - x)\end{aligned}\quad (7)$$

The address of indifferent enterprise is $\bar{x} = \frac{1}{2} + \frac{\alpha_s(N_{c_1} - N_{c_2}) + \lambda_s(V_1 + V_2) - V_2 - (P_{s_1} + P_{s_2})}{2t}$, thus

$$\begin{aligned}N_{s_1} &= \frac{1}{2} + \frac{\alpha_s(2N_{c_1} - 1) + \lambda_s(V_1 + V_2) - V_2 - (P_{s_1} + P_{s_2})}{2t} \\ N_{s_2} &= \frac{1}{2} - \frac{\alpha_s(1 - 2N_{c_2}) + \lambda_s(V_1 + V_2) - V_2 - (P_{s_1} + P_{s_2})}{2t}\end{aligned}\quad (8)$$

Similarly, we can get:

$$\begin{aligned}N_{c_1} &= \frac{1}{2} + \frac{+a_c(2N_{s_1} - 1) + \lambda_c V_1 - (1 - \lambda_c)V_2}{2t} \\ N_{c_2} &= \frac{1}{2} - \frac{+a_c(1 - 2N_{s_2}) + \lambda_c V_1 - (1 - \lambda_c)V_2}{2t}\end{aligned}\quad (9)$$

We can know N_{c_i} and $N_{s_i} (i=1,2)$ are cross-correlation from formula (8) and (9). When $N_{c_i} (N_{s_i})$ increase, there is a corresponding increase of $N_{s_i} (N_{c_i})$. It means, when more users of one side join the platform, it will also attract more users on the other side. This just reflects the positive cross network externalities.

By considering formula (8) and (9), we can get enterprises number of platform 1 and platform 2, respectively.

$$\begin{aligned}N_{s_1} &= \frac{1}{2} + \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - t(P_{s_1} + P_{s_2})}{2t^2 - 2a_c a_s} \\ N_{s_2} &= \frac{1}{2} - \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - t(P_{s_1} + P_{s_2})}{2t^2 - 2a_c a_s}\end{aligned}\quad (10)$$

Thus, profits of platform 1 and platform 2 are:

$$\begin{aligned}\Pi_1 &= P_{s_1} N_{s_1} = P_{s_1} \left(\frac{1}{2} + \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - t(P_{s_1} + P_{s_2})}{2t^2 - 2a_c a_s} \right) \\ \Pi_2 &= -P_{s_2} N_{s_2} = -P_{s_2} \left(\frac{1}{2} - \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - t(P_{s_1} + P_{s_2})}{2t^2 - 2a_c a_s} \right)\end{aligned}\quad (11)$$

We demand Π_1 and Π_2 on P_{s_1} and P_{s_2} first order partial derivatives respectively to obtain maximum profits.

$$\begin{aligned}\frac{\partial \Pi_1}{\partial P_{s_1}} &= \frac{1}{2} + \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - tP_{s_2}}{2t^2 - 2a_c a_s} - \frac{t}{t^2 - a_c a_s} P_{s_1} \\ \frac{\partial \Pi_2}{\partial P_{s_2}} &= -\frac{1}{2} + \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - tP_{s_1}}{2t^2 - 2a_c a_s} - \frac{t}{t^2 - a_c a_s} P_{s_2}\end{aligned}\quad (12)$$

We can get pricing strategy of two platforms according to the necessary condition of profit maximization.

$$\begin{aligned}P_{s_1} &= \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 + 3(t^2 - a_c a_s)}{3t} \\ P_{s_2} &= \frac{(t\lambda_s + a_s\lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 - 3(t^2 - a_c a_s)}{3t}\end{aligned}\quad (13)$$

Replacing formula(13) into (10), we can know enterprises number of platform 1 and platform 2.

$$N_{s1} = \frac{3(t^2 - 2a_c a_s) + (t\lambda_s + a_s \lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2}{6(t^2 - 2a_c a_s)} \quad (14)$$

$$N_{s2} = \frac{3(t^2 - 2a_c a_s) - \{(t\lambda_s + a_s \lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2\}}{6(t^2 - 2a_c a_s)}$$

Replacing formula(13) and (14) into (11), profits of platform 1 and platform 2 are as follows.

$$\Pi_1 = \frac{\{3(t^2 - a_c a_s) + (t\lambda_s + a_s \lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2\}^2}{18t(t^2 - a_c a_s)} \quad (15)$$

$$\Pi_2 = \frac{\{3(t^2 - a_c a_s) - (t\lambda_s + a_s \lambda_c)V_1 + [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2\}^2}{18t(t^2 - a_c a_s)}$$

Then, the difference between platform 2 and platform 1 is:

$$\Delta_\pi = \Pi_2 - \Pi_1 = -\frac{2}{3}\{(t\lambda_s + a_s \lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2\}. \text{When profits of platform 2 exceeds platform 1, it}$$

should satisfy $\Delta_\pi > 0$, that is to say, $(t\lambda_s + a_s \lambda_c)V_1 - [t(1 - \lambda_s) + a_s(1 - \lambda_c)]V_2 < 0$. After simplifying, we can get that

$$\frac{V_1}{V_2} < \frac{t(1 - \lambda_s) + a_s(1 - \lambda_c)}{t\lambda_s + a_s \lambda_c}, \text{ that is when } \frac{V_1}{V_2} < \frac{t(1 - \lambda_s) + a_s(1 - \lambda_c)}{t\lambda_s + a_s \lambda_c}, \text{ profits of platform 2 will exceed platform 1.}$$

2.2 Platform competition in the case of multihoming

User can choose to join both two platforms, and according to Hotelling model, we can know:

$$N_{s1} = \frac{1}{t}(a_s N_{c1} + \lambda_s V_1 - P_{s1}) \quad (16)$$

$$N_{s2} = \frac{1}{t}[a_s N_{c2} + (1 - \lambda_s)V_2 + P_{s2}]$$

Similarly, we can get:

$$N_{c1} = \frac{1}{t}(a_c N_{s1} + \lambda_c V_1) \quad (17)$$

$$N_{c2} = \frac{1}{t}[a_c N_{s2} + (1 - \lambda_c)V_2]$$

It can be seen from formula(16) and (17), N_{ci} and N_{si} ($i=1,2$) are cross-correlation. When N_{ci} (N_{si}) increase, there is a corresponding increase of N_{si} (N_{ci}). That means when more users of one side join the platform, it will also attract more users on the other side. This just reflects the positive cross network externalities.

By considering formulas(16) and (17), we can get enterprises number of two platforms in the case of multihoming, respectively.

$$N_{s1} = \frac{(a_s \lambda_c + t\lambda_s)V_1}{t^2 - a_s a_c} - \frac{t}{t^2 - a_s a_c} P_{s1} \quad (18)$$

$$N_{s2} = \frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)]V_2}{t^2 - a_s a_c} + \frac{t}{t^2 - a_s a_c} P_{s2}$$

Thus, profits of platform 1 and platform 2 are:

$$\Pi_1 = P_{s1} N_{s1} = P_{s1} \left[\frac{(a_s \lambda_c + t\lambda_s)V_1}{t^2 - a_s a_c} - \frac{t}{t^2 - a_s a_c} P_{s1} \right] \quad (19)$$

$$\Pi_2 = -P_{s2} N_{s2} = -P_{s2} \left\{ \frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)]V_2}{t^2 - a_s a_c} + \frac{t}{t^2 - a_s a_c} P_{s2} \right\}$$

We demand Π_1 and Π_2 on P_{s1} and P_{s2} first order partial derivatives respectively to obtain maximum profits.

$$\frac{\partial \Pi_1}{\partial P_{s1}} = \frac{(a_s \lambda_c + t \lambda_s) V_1}{t^2 - a_s a_c} - \frac{2t}{t^2 - a_s a_c} P_{s1}$$

$$\frac{\partial \Pi_2}{\partial P_2} = -\frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)] V_2}{t^2 - a_s a_c} - \frac{2t}{t^2 - a_s a_c} P_{s2}$$
(20)

We can get pricing strategy of two platforms, according to the necessary condition of profit maximization.

$$P_{s1} = \frac{(a_s \lambda_c + t \lambda_s) V_1}{2t}$$

$$P_{s2} = -\frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)] V_2}{2t}$$
(21)

Replacing formula (21) into (18), we can know enterprises number of two platforms, respectively.

$$N_{s1} = \frac{(a_s \lambda_c + t \lambda_s) V_1}{2(t^2 - a_s a_c)}$$

$$N_{s2} = \frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)] V_2}{2(t^2 - a_s a_c)}$$
(22)

Profits of platform 1 and platform 2 are as follows.

$$\Pi_1 = \frac{(a_s \lambda_c + t \lambda_s)^2 V_1^2}{4t(t^2 - a_s a_c)}$$

$$\Pi_2 = \frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)]^2 V_2^2}{4t(t^2 - a_s a_c)}$$
(23)

The ratio between platform 2 and platform 1 is $\frac{\Pi_2}{\Pi_1} = \left\{ \frac{[a_s(1 - \lambda_c) + t(1 - \lambda_s)] V_2}{(a_s \lambda_c + t \lambda_s) V_1} \right\}^2$, when profits of platform 2 exceed platform 1, it should satisfy $\frac{\Pi_2}{\Pi_1} > 1$. After simplifying, we can get $\frac{V_1}{V_2} < \frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c}$, that is to say, when $\frac{V_1}{V_2} < \frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c}$ profits of platform 2 will exceed platform 1. This is consistent with the conclusion in the case of single-homing.

3. MODEL ANALYSIS

In this paper, number of enterprises, pricing strategy and profits of two platforms are discussed in the case of single-home and multihoming. Results suggest that the conditions that platform 2 outstrips platform 1 in profits are the same. This indicates that the impact of user's state of attribution plays a minor role in platform competition.

Conclusion 1: in the case of single-home and multihoming, the conditions that platform 2 outstrips platform 1 in profits are the same.

When profits of platform 2 exceeds platform 1, it will satisfy $\frac{V_1}{V_2} < \frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c}$, now two cases are discussed.

- λ_c and λ_s are symmetric

When $0 < \lambda_c < 1/2, 0 < \lambda_s < 1/2, \frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c} > 1$, the size of V_1 and V_2 can not be ascertained.

When $1/2 < \lambda_c < 1, 1/2 < \lambda_s < 1, \frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c} < 1$, thus, $V_1 < V_2$.

- λ_c and λ_s are asymmetric

When $0 < \lambda_c < 1/2, 1/2 < \lambda_s < 1$, we can not determine the value of $\frac{t(1 - \lambda_s) + \alpha_s(1 - \lambda_c)}{t \lambda_s + \alpha_s \lambda_c}$ compared with 1, so the size of V_1 and V_2 cannot be ascertained; It is the same when $1/2 < \lambda_c < 1, 0 < \lambda_s < 1/2$. Table 1 is discussion on

different values of λ_c and λ_s .

Table 1. Discussion on different values of λ_c and λ_s

	$0 < \lambda_c < 1/2$	$1/2 < \lambda_c < 1$
$0 < \lambda_s < 1/2$	cannot be determined	cannot be determined
$1/2 < \lambda_s < 1$	cannot be determined	$V_1 < V_2$

From table 1, we know that when $1/2 < \lambda_c < 1, 1/2 < \lambda_s < 1$, the value of $\frac{t(1-\lambda_s) + \alpha_s(1-\lambda_c)}{t\lambda_s + \alpha_s\lambda_c}$ will be less than 1, thus $V_1 < V_2$. It means when the evaluation coefficient of consumers and enterprises are both very high, the service level of platform 2 will be superior to platform 1 if it outstrips platform 1 in profits. When $0 < \lambda_c < 1/2, 0 < \lambda_s < 1/2$ or in the case of λ_c and λ_s are asymmetric, the service level of platform 2 can be higher or lower than platform 1 if it exceeds platform 1 in profits, so condition is relatively loose. Platform 2 will obtain much more profits than platform 1 as long as $\frac{V_1}{V_2} < \frac{t(1-\lambda_s) + \alpha_s(1-\lambda_c)}{t\lambda_s + \alpha_s\lambda_c}$ is satisfied regardless of service level. For platform 2, it will need to pay more effort and cost to improve evaluation to a high level simultaneously. So it can reduce user evaluation of both two sides or focus on improving user experience of one side to get high evaluation. However, it is difficult to survive in the market for platform with low evaluation of both two sides. Therefore, to vie for market and get more profits than platform 1, platform 2 should primarily improve evaluation of one side.

Conclusion 2: to vie for market and get more profits than platform 1, platform 2 should primarily improve evaluation of one side.

From formula (13) and (21) we can see $P_2 < 0$ when competition equilibrium exists in the case of single-home and multi-homing. It indicates platform 2 should charge fees to enterprises instead of subsidy under maximization of profit. So in early phase of entry, it is not a permanent measure to subsidize enterprises to get them on board.

Conclusion 3: later entrant should charge fees to enterprises in order to obtain much more profits than the incumbent when competition equilibrium exists.

4. CASE ANALYSIS

Tmall, being the leader of B2C market in China since 2011, comes from Taobao which started from 2003. Large numbers of enterprises and numerous consumers are attracted for its large market share and unexampled advantages in flow. Enterprises of Tmall not only need pay deposit and use cost, but also need pay high advertisement costs to gain platform flow. Amazon is the world's largest electronic business company. Combined with joyo.com, it began to enter into Chinese market in 2004 and renamed Amazon China in 2011. Different from other B2C platforms in China, such as Tmall, Jingdongmall, Amazon China adopts "zero investment" pattern without deposit and use cost. Enterprises only need to pay commission and logistics expense. What's more, there's no advertising cost. It provides a fair competitive environment for different sellers of the same product to enjoy same exposure opportunity and flow. Meanwhile, Amazon China creates unified promotion and marketing, which provides numerous free services, including page display, mail advertising and personalized recommendation engine. Thanks to simplified marketing process, enterprises can focus on selling all manner of products. Amazon China subsidizes enterprises by offering free services.

However, Amazon China has been in a tepid state since its entry to China. From figure 1, we can see Tmall ranks first with 441 billion while Amazon China, less than a tenth of Tmall, ranks seventh. Meanwhile, Amazon China is at the bottom of the list with a rate of 42.6% in the top 10 China B2C online retail growth rates of 2013.

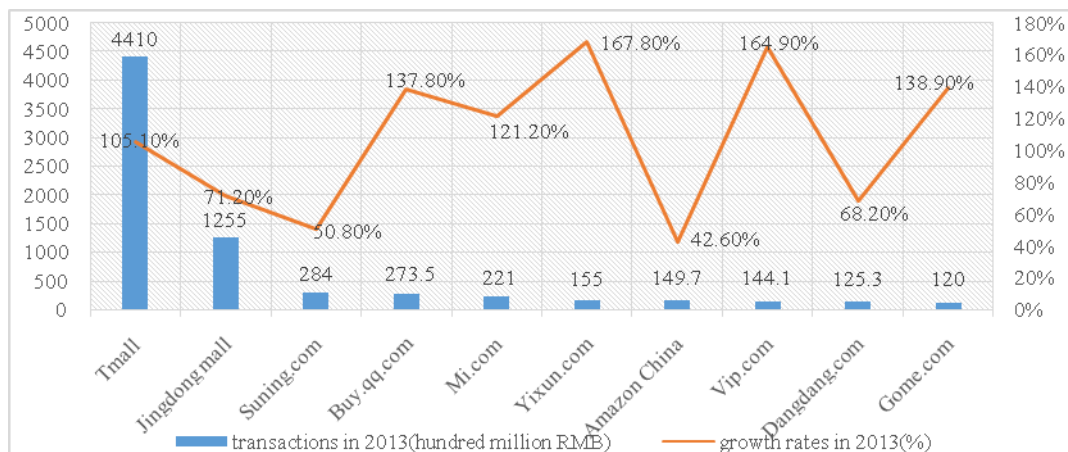


Figure 1. The top 10 China B2C online retail transactions and growth rates in 2013

Comparing with rapid growth of China B2C platforms, the development of Amazon China appears to be excessively slow. This phenomenon mainly comes from three aspects. Firstly, Amazon China put emphasis on developing infrastructure construction at the beginning, like layout of warehousing logistics and the building of IT system for instance. However, Amazon China made its first ever loss in 2012 because of the impact of high input in logistics and technology. There is no deposit or use cost in Amazon China and enterprises are provided with various promotion service, which also lead to a considerable expenditure. Secondly, it is not in accordance with consumer shopping habits for its monotone website design. Thirdly, there are different kinds of sales promotion in China, such as Double 11 shopping spree of Tmall and "6-18" anniversary sale of Jingdong. They are good ways to attract consumers and receive praise. But, Amazon China is not keen to lower prices to entice customers. Hence, platform evaluation of consumers are generally not high.

Conclusion 1 indicates that user state of attribution is not the key factor in profit competition. Thus Amazon China will get ahead of Tmall as long as $\frac{V_1}{V_2} < \frac{t(1-\lambda_s) + \alpha_s(1-\lambda_c)}{t\lambda_s + \alpha_s\lambda_c}$. According to conclusion 2, Amazon China should improve its site layout combined with user habits to enhance user experience. In tandem, it is essential to provide more personal service to improve consumer evaluation.

In order to make a profit breakthrough, Amazon China should shrink its spending and reduce the construction of logistics infrastructure investment on the one hand. On the other hand, charging fees to enterprises is needed. It is not a permanent solution to subsidize enterprises to get them on board in initial phase of platform development. This is also consistent with conclusion 3.

5. CONCLUSIONS

In the case of single-home and multihoming, we firstly consider competitive strategy of the incumbent and later entrant, which differ in service level and evaluation. Then the condition of later entrant profit exceeding the incumbent is studied. Finally, the case of Tmall and Amazon China is discussed. The conclusions are as follows:

- In the case of single-home and multihoming, the conditions that platform 2 outstrips platform 1 in profits are the same.
- In order to vie for market and get more profits than the incumbent, later entrant should substantively improve service level and evaluation of one side in platform.
- Later entrant should charge fees to enterprises in order to obtain much more profits than the incumbent when competition equilibrium exists.

The B2C market of China is developing rapidly, and the duopoly market pattern consist of Tmall and Jingdong is gradually being formed. Other B2C platforms are trying to seek for new market space and enhance its

core competitive advantage by supply chain integration, product development, brand building and service optimization. Burgeoning vertical B2C platforms, such as Vipshop and Jumei are examples of later entrants. Thus, later entrant can still create a better performance as long as its market positioning is appropriate.

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