

A study on network sales carnival from an economics perspective

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Abstract

Shopping online has become an inseparable part of people's life, with the development of internet technology. This thesis takes the consumer group of Taobao "Double 11" Carnival as research subject and attempts to find out the reasons for the quick development of shopping online and its occupation of the market from perspectives of consumer preference, price elasticity of demand, and price discrimination. Based on the marketing methods adopted and sales performance during Taobao "Double 11" Carnival, this thesis illustrates how the electronic commerce enterprise created such sales miracles by analyzing consumer preference, price elasticity of demand of different goods and price discrimination strategy adopted to boost sales.

Keywords: *consumer preference; price elasticity of demand; price discrimination; network sales carnival*

1 Introduction

1.1 Background of research

According to the news released, the first Taobao "Double 11" Carnival was launched in 2009, during the time when shopping online has not yet become a common practice. But a sales volume of RMB 50,000,000 yuan was made within that single day. Few online shopping platform can achieve such a huge amount of sales. Since 2009, the sales volume during Taobao "Double 11" Carnival has gained substantial increase every year. According to the data released from official report, sales amount during Taobao "Double 11" Carnival was disposed and calculated in the following Table 1.

The statistics in table 1 showcases that the sales amount of Taobao "Double 11" Carnival has been gradually increased, from RMB 50 million yuan in 2009 to RMB 120.7 billion yuan in 2016, with absolute value added by 2,414 times within only 8 years, during which online

platforms including JD.COM, SUNING.COM and GOME.COM.CN have been growing up successively.

Table 1 -Sales Amount during Taobao “Double 11” Carnival

Sales Amount During Taobao “Double 11” Carnival			
No.	Year	Sales Amount (100 million yuan)	Year-on-Year Growth Rate
1	2009	0.5	Nil
2	2010	9.36	1772%
3	2011	52	455.56%
4	2012	191	267.31%
5	2013	350.18	83.34%
6	2014	571	63.06%
7	2015	912.17	59.75%
8	2016	1207	32.32%

Shopping online is the hottest topic when it comes to “Double 11”, various one-liners emerge one after another. The authors, who have experienced and participated in “Double 11” Carnival in these years, witnessed the blossom development of online shopping, and become increasingly interested in network sales carnival. What on earth is the reason that “Double 11” be evolved into such a sales promotion of huge success through making it a “Carnival” within a few years? According to the latest released report on the happiest countries in the world, the evaluation indexes include income level, living standard, employment rate, mental health of residents, and family stability. The sales amount during “Double 11” Carnival has been undergoing a continuous and astonishing growth. Does this really mean that people’s income, family stability, and living standards are improved and that people really feel happy when they do shopping?

1.2 The significance of research

The e-commerce platform Alibaba was established in 1999, with only 18 years of development, its influence has outpaced expectations. Tmall, as an important part of Alibaba, has become well-known and popular among customers as well as an important B2C platform in e-commerce industry because of its “Double 11” Shopping Carnival.

Up to October 2016, Tmall “Double 11” Shopping Carnival has been held for 8 consecutive years. In the past 7 years, Tmall has seen an explosive growth in its volume of transaction during “Double 11”. The success of the discount and sales promotion during “Double 11”

owes to combined influence of both internal and external factors. The transaction volume on the same day of November 11 from 2009 to 2016 represents that the “network sales carnival” has not only rendered some material benefits to consumers, but also has facilitated the fast development of Taobao. What’s the secret of the success of Tmall “Double 11” Carnival? This thesis discusses the price method and promotion means adopted in selling different products during Tmall “Double 11” Carnival in the following parts, so as to offer a better understanding the consumer preference, price elasticity of demand, and method of price discrimination and decipher the code of Tmall’s success, which may hopefully provide enlightenment on pricing and promotion of products for other e-commerce enterprises.

1.3 The spring-up and development of “Double 11” carnival

“Network Sales Carnival” refers to the day of November 11 of every year. Since the date consists of four 1’s, it is nicknamed “bachelor’s day”. With the special meaning of this date, giant e-commerce websites such as Tmall and JD.COM launched a large scale of promotion on the day of “Double 11” since 2009, with an aim of getting excess profits through boosting sales volume. The activity swept across China and became the largest business activity of online shopping in China. Alibaba Group, with its prediction on the future development of discount and promotion during “Double 11” Carnival, submitted trademark registration application to the Trademark Office of the State Administration for Industry & Commerce of the People’s Republic of China on November 1, 2011, and obtained the exclusive right of this trademark on December 28, 2012. In the end of October 2014, Alibaba Group published a letter of notification declaring that it had acquired the registered trademark of “Double 11”. Authorized by Alibaba, Tmall (the original Taobao Mall) possesses the exclusive right of the trademark “Double 11” protected by law, the acts of using the trademark by any other individual or organization is illegal. Shopping online has changed people’s way of consumption, and “Double 11” Carnival launched by Taobao has turned into be a constant shopping feast for consumers in the context of internet¹.

2 Brief theoretical introduction to consumer preference, price elasticity of demand, and price discrimination

2.1 Consumer preference

Consumer Preference refers to the degree of preference that consumer has for a kind of commodity (or grouping of commodities). There is a positive correlation between the

quantities demand for a commodity and the degree of preference that consumer has for this commodity. Ceteris paribus, the higher the degree of consumer preference for a commodity, the more the quantities demand for this commodity will be ².

2.2 Price elasticity of demand

In economics, price elasticity of demand is often used to measure the degree of the change of quantity demand that varies with the change of the price. Suppose Q refers to quantity demand, ΔQ refers to the absolute quantity of demand change, P the price, and ΔP the absolute quantity of price change ³, then:

$$\text{Price Elasticity} = \frac{\text{Demand Change (\%)}}{\text{Price Change (\%)}} = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

Generally speaking, a fall in price will lead to an increase of quantity demand. For this reason, the price elastic coefficient of demand is negative in general cases.

2.3 Price discrimination

Price discrimination is actually a price variance that often refers to the different sale prices or charging standards adopted by providers of commodity or services when they provide commodity or services of the same level or quality to different recipients.

3 The practice of consumer preference, price elasticity of demand, and price discrimination in “Double 11” carnival by Tmall

3.1 Analysis on consumer preference

3.1.1 Utilizing big data technology to analyze consumer preference

The diversity of commodity exerts direct influence on the competitiveness of e-commerce enterprises, while users often fails to find out the exact commodity that they want most because of the great magnanimity of commodities, the multifarious classification system and complicated data of unstructured commodity attributes. Thanks to the cloud computing technology introduced by Alibaba, the magnanimous data can be collected by this e-commerce platform. Possessing with the great data analysis capability, the consumer preference is available through analyzing the search habit and purchasing behavior of consumer ⁴.

First of all, big data technology allows Tmall to make analysis on information obtained from tracing users' browsing and search history, so as to make it possible for Tmall to have better understanding on users demand and users preference. Taking the advantage of big data analytical ability, the sellers of decision-making level will be provided with fully filtered information in every field. In this regard, the sellers will have a more precise understanding on market, clients and products. Secondly, big data technology helps sellers make more timely decisions. As the big data analysis is proceeding in real time, the decisions can be made more efficiently, and thus the time from innovation, production to the launch of products is shortened. In a highly competitive market, fast speed is of great importance. Third, in big data era, analysis on economic behavior can be made with mass data. New situation shall be noticed promptly so as to ensure early intervention and analysis on new things with foresight, which can be used to predict the profound effect of industrial trend toward enterprises. For instance, recommendations on network such as "guess you like it" at the bottom of the webpage of Tmall are of this kind. Therefore, during "Double 11" Carnival, sellers on Tmall can obtain the first-hand information about consumers directly by means of big data technology and choose the most suitable means of promotion for themselves according to the consumer preference reflected by big data technology.

3.1.2 Analysis on consumer preference according to sales mode

In comparison with previous years, publicity and commercial war of 2016 Tmall "Double 11" Carnival came much earlier. In the past, warming-up activities to attract consumers by favorable prices were only conducted by sellers. Since 2014, an activity of advance sale has been launched. The advance sale starts from October 15 to November 10 in steps and phases. During this period, consumers can log in the platform for advance sale platform, pay a deposit first and then pay the rest price to buy pre-sale goods including scarce commodities, acquisition commodities and customized commodities. Due to the success of this sale mode, Tmall "Double 11" Carnival of this year carried on the advance sale as before.

Advance sale is actually an attempt of C2B (Consumer to Business), i.e. a business mode that comes with sales order first, then follows the production, transport and circulation of products successively. The ultimate goal of advance sale is to close the sale. Compared with traditional sales mode, information about consumer demands and consumer preference will contribute to a more precise strategy targeting consumers by sellers so that they will be able to prepare goods in advance and ensure efficient management of upstream and downstream supply chain.

3.2 Analysis on demand theory

3.2.1 Level of income

In real life, there are many factors that may affect people's consumption behavior, such as income level, price level, interest rate level, and consumer preference. According to the father of macroeconomics, John Maynard Keynes, the decisive factors of people's consumption lie in income level. He puts the relation between consumption and income as a consumption function, i.e. $C = \alpha + \beta y$ ($0 < \beta < 1$). In this function, α refers to absolute consumption, βy refers to causing consumption, i.e. the extra consumption added with the increase of income⁵.

With the stable and fast development of China's economy, people's living standard has been gradually improved. On the one hand, China's GDP has gradually increased by year, as we can see the GDP data of recent ten years in the following Chart. The average growth rate of China's GDP is around 8 percent in past ten years from 2006 to 2016 (see Chart 2). According to the consumption function set forth by Keynes, people may increase consumption if their income increases. Shopping online is an important element of such consumption. With the rapid spread of internet, in particular, the emergence of smart phones, online retailers are brought with huge opportunities of development and expansion ahead, and the expansion of market is not limited within physical stores. Network sales has opened another door for sales of enterprises. Coupled with the facts that China's logistics industry has grown by leaps and bounds and operating efficiency has been greatly improved, shopping online is undoubtedly guaranteed to the greatest extent. Obviously, that is why the sales amount within the single day of 2016 "Double 11" Carnival reached to RMB 120.7 billion yuan, a miracle in e-commerce industry. Please see Fig.1.

3.2.2 Price elasticity of demand

a) Analysis on the comparison of price effect between Tmall and Taobao

Tmall is a sales platform for sellers, mainly for the direct sales of products of enterprises or companies, most of which are brand name products. Compared with the fair-like products on Taobao, the quality of products from Tmall is more guaranteed. Therefore, the lists of purchasing on Tmall are obviously different from those of Taobao. Buyers of Tmall attach more importance on life quality and the percentage of the category of quality-related such as books, personal care products is relatively high. While buyers of Taobao tend to buy more virtual network related products such as online games, QQ value-added services, and they have preference on individualized products such as dress accessory and customized services.

According to the analysis on the category and price of products the consumers purchased, the price elasticity of demand of products on Tmall is higher than that of Taobao. In this regard, the results of price deduction during “Double 11” Carnival conducted on Tmall are better than that of Taobao.

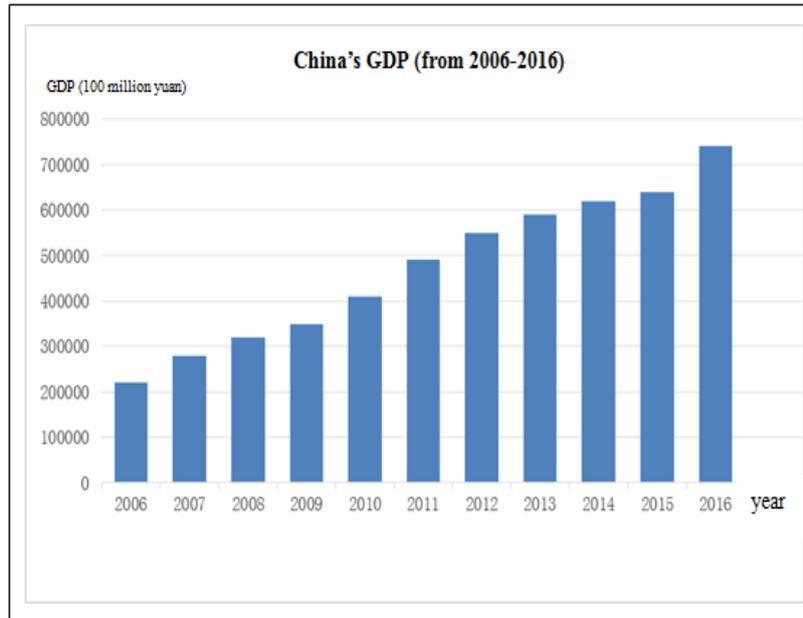


Fig.1- China's GDP from 2006 to 2016

(Data from National Bureau of Statistics of the People's Republic of China)

Table 2- The Top 5 sellers on Tmall in terms of transaction volume by categories of products during 2016 Tmall “Double 11” Carnival

Category	1st	2nd	3rd	4th	5th
Women's Dress	UNQLO	ONLY	BOSIDENG	HANDU.COM	LEDIN
Men's Wear	GXG	SEMIR	UNQLO	PEACEBIRD	JACK & JONES
Maternal and Child	BALABALA	PURCOTTON	GAP	ENGNICE	UNQLO
Personal Care & Household Cleaning	WALCH	SCHWARZKOPF	BREEZE	VINDA	C&S
Women's Shoes	SKECHERS	UGG	BELLE	DAPHNE	JOSINY
Residential Furniture	LINSHIMUYE	QUAN U	KUKA	AIRLAND	HUARI
Cell Phone	APPLE	MI	HONOR	MEIZU	HUAWEI
Home Textile & Dome Decoration	MERCURY	FUANNA	LOVO	LUOLAI	NAN JI REN
Cosmetic	PECHOIN	L'OREAL	CHANDO	ONE LEAF	SK- II
Major Appliances	HAIER	MIDEA	SIEMENS	GREE	LETV
Small Appliances	MIDEA	PHILIPS	ECOVACS	JOYOUNG	SUPOR

b) Analysis on the comparison of price effect among different products on Tmall

The top 5 sellers on Tmall during 2016 Tmall “Double 11” Carnival are as follows (see chart 3), divided in terms of categories in Table 2.

It can be observed from the above chart by taking into account the sales volume of products before and after “Double 11” Carnival that price deduction exerts greater influence on digital products, dress-goods, and cosmetic. The original prices of these products may be of little change within a certain period of time and of little difference in different regions and stores. As such, price promotion utilized during “Double 11” Carnival plays a significant role in attracting consumers. The reason is that the price elasticity of demand to these products is greater than other products so that the effect of a price deduction on sales amount is more obvious. In this regards, price deduction on necessities of life, such as rice, is absolutely impossible, since the profit and the effect on sales volume is relatively humble.

3.3 Analysis on price discrimination

On the day of “Double 11”, many sellers on Tmall will distribute a certain amount of discount coupons to buyers, which shall be claimed directly by consumers and used as cash at the time of payment. The amount of most of those coupons is limited. If all of the coupons are taken by some buyers, then the coupons will not be available for other buyers. This is actually the so called first-level price discrimination: if consumers want to buy the products at a low price, they must scramble for the coupons in advance so that the deal can be done at a lower price. While to those consumers who do not want coupons that much, sellers will raise the prices on products if buyers do not use coupons. And the second-level price discrimination, which does exist during “Double 11” Carnival, is implemented through setting different prices for different amount of buying of same goods or services. Taking group buying on Juhuasuan.com for example, the more they buy, the lower the price will be. Although the price obviously falls, the sellers can still augment profits through a second-level price discrimination, which amplifies production, expands economic scale and lowers the unit cost. At the same time, low price can attract more buyers and repeat consumers and bring about repeat business.

4 Conclusions

Shopping online has changed people's way of consumption, and the "Double 11" Carnival launched by Taobao has become a constant online feast for consumers. Through the research on the cases from Tmall "Double 11" Carnival, the authors learn the managerial economics theory behind and the effect of consumer preference, price elasticity of demand and price discrimination on e-commerce promotion strategy, which are also applicable to other e-commerce platforms. Therefore, other e-commerce platforms can also take advantage of these methods to guide their formulation of promotion program so as to gain more profits and bigger success.

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References

1. P. Y. Qiu, "An Analysis on the Problems and Solutions of Taobao 'Double 11' Carnival" [J]. *Manager Journal*, 2014(4).
2. X. J. Ding. "Investigation on the Causes of Purchasing during 'Double 11' Carnival from an Economics Perspective" [J]. *Journal of Tonghua Teachers College*. 2016, 37(7):133-136.
3. W. L. Jia. "An Analysis on Marketing Strategies Adopted in Market by E-commerce Enterprises Based on 'Double 11' Carnival" [J]. *Market Modernization*, 2015, 29:31-32.
4. J. Wang, W. Tong. "An Interpretation on Tmall 'Double 11' Carnival from the Perspective of the Ritual View of Communication" [J]. *Journal News Research*, 2016, 03:26-27.
5. M. J. Li, Q. Yan. "An Analysis on the Application of Big Data in Information Consumption" [J]. *Journal of Beijing University of Posts and Telecommunications*, 2014.4(16):58-63.
6. D. Q. Wu, B. L. Wang, Y. C. Ma. *Managerial Economics* [M]. Beijing: China Remin University Press, 2014.
7. W. M. Xu. "An Analysis on Consumers Behavior of Online Shopping" [J]. *Economic Research Journal*. 2010, 6(2).