

Behavior Study on Consumer Driven e-Commerce

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Abstract. The growth of internet availability and rise of affordable express parcel delivery services for the general public in China has greatly impacted people's consumer behavior. More and more consumers have joined in on the growing market of online shopping and e-commerce. One group of these consumers prefer searching through various websites, combing through different products and prices, then deciding on what to purchase after comparing and contrasting offers from competing merchants. Another group would rather plan out their purchasing requirements, such as maximum price limit or ideal brand, and let others fulfill their order. Yet others, in order to save both time and effort, decide to join in on group purchasing for group discounts and better package deals. E-commerce users are found in all age groups and among those living in both first class and second tier cities. To serve these various groups of consumers, e-commerce businesses take several forms, ranging from B2C, C2b, and F2C (from factory to consumer). In order to better understand the evolving consumer behavior in China and examine the shopping preference among the different age groups, we designed and conducted an ethnographic study in Shanghai, China to explore the following questions: the various situations in which consumers use different styles of shopping, their specific shopping preferences and concerns, and the various roles that each factor plays in their decision-making process. This paper is a case study that illustrates the different user behaviors across these different age groups of e-commerce consumers.

Keywords: e-commerce, B2C, C2B, F2C, Age group user study, international, consumer behavior.

1 Introduction

With the widespread availability of internet access, online shopping and e-commerce is quickly becoming an important part of daily life in the Chinese economy. According to statistics from iResearch [1], the GMV for the China e-commerce market is estimated steadily grow at an average of 20% per year and reach 21.6 trillion Yuan by 2017, revealing that more and more consumers are choosing to shop and browse online for purchasing products and services. The growth of the e-commerce market is further boosted by the rise of courier and express delivery services, which offers fast shipping and handling services, as well as ensuring a consistent and reliable delivery time for parcels.

Furthermore, it has been observed that with the stressful fast-paced lifestyles, especially in urban communities, online shopping has become more popular and convenient amongst young and middle-aged consumers. With less time available to browse and compare products in actual stores, these consumers turn to e-commerce businesses to purchase many of their necessities at a reasonable price, which provide the simplicity of one-stop shopping. In addition, the increasing cost of living, a common phenomenon in first tier cities such as Beijing and Shanghai, and the demand for lower prices have provided further motivation for consumers to join in on group packages and discounts offered by e-commerce vendors.

Our goal in this study is to obtain a better understanding of consumer needs and behaviors in online shopping and e-commerce. This study was conducted in Shanghai, China through a survey of 86 randomly chosen candidates in order to explore the following topics: How will these technological developments and advancements impact the online behavior of consumers? How does online consumer behavior vary across different age groups of users and across different types of e-commerce business models?

2 Background and Hypothesis

The growth of online retail transaction in China had reached 899 billion Yuan by 2011, an increase of 72% [2]. Meanwhile, online shopping users had reached 194 million users. In one year, retail transaction had reached 1300 billion Yuan, increasing nearly 65% by 2012. And by the first quarter of 2013, the total e-commerce transaction in China had reached 2400 billion Yuan, an increase of 45%. On November 11 of 2013, the single day retail transaction on Tao Bao (an e-commerce site) had exceeded 30 billion Yuan, the equivalent of Wal-Mart's sales for half a year in China. The number of e-commerce businesses in China is steadily growing and can be illustrated in the Figure below.

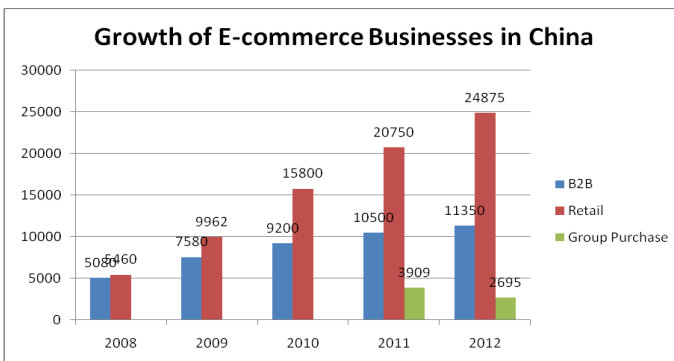


Fig. 1. Growth of E-commerce Businesses in China [2]

As demonstrated by Figure 1, using data provided by China Industry Information (chyxx.com), there is a steady rise in the number of e-commerce businesses in China, ranging from business-to-business, retail, and group purchase business models. Of the three categories, the number of retail e-commerce businesses shows the highest rate of growth, while group purchase businesses have only begun establishing since 2011. The pattern of growth observed, especially in retail, show that not only is there a high consumer demand for online shopping, but that this style of shopping is quickly integrating into the daily lives of many consumers.

Due to the fast growth of e-commerce, many Express Delivery Services (EDS) companies have established and expanded their business, and consumers no longer need to be concerned about the shipping costs and the delivery time. Many young people are more familiar with express delivery services than the actual post offices, due to the convenience that EDS offers by picking up the parcel directly from their home within one hour of a phone call. The order procedure is simple as well: a person merely has to complete an online shipping order or initiate an order by phone, and the parcel will arrive within 2-3 business days to his or her designated destination.

Based on a report from ChinaIRN, the number of daily EDS orders in China reached 25 million, of which 15 million are from e-Commerce [4]. The figure below indicates the growth of EDS.



Fig. 2. 2008-2013 Earnings for Express Delivery Services for Online Retail in China [5]

We expect that along with the rapid growth of e-commerce and express delivery services, the consumer behavior of China's online shoppers is also evolving, and their life style is also changing because of the convenience provided by technology growth [6, 7]. We hypothesize that out of five types of e-Commerce business models, the

older age groups from thirty to thirty-nine and forty and above will prefer the traditional business-to-consumer model, while the younger 20s age group will prefer using consumer-to-business model.

3 Methodology

In order to confirm or reject our research hypothesis, a web survey was designed and conducted in Shanghai, China. Included in this survey are a broad range of questions that cover factors such as the various situations in which consumers use different styles of shopping, their specific shopping preferences and concerns, and the various roles that each factor plays in their decision-making process.

The questionnaire was sent to statistical research services for reviewing and proofreading after it was written to ensure that there would be minimal bias in the syntax and diction of the questions. The statistical research services was then responsible for sending the questionnaire to a number of trustworthy websites to be filled out by a fixed number of internet users. By varying the types of websites the questionnaire was sent to, we hoped to ensure that the respondents we surveyed would be from a random and diverse population. When each age group reached over 25 respondents, the survey was closed and removed from the internet, and the resulting data was compiled and analyzed.

We had a total of 86 respondents overall who fully completed the survey. Before a respondent is taken to the survey webpage, we inserted a notice to request that the respondent not fill out the questionnaire if he or she had already completed it through a different website. Therefore, it is safe to assume that each of the responses is valid and not repetitive. In addition, we strived to make sure that the responses were reliable and based on experience to minimize the error of our results by presenting the survey to respondents who were frequent e-commerce users. We assume that the sample population of eighty-six e-commerce users will be a large enough and representative sample. We will also assume that the survey responses are independent of each other because it is unlikely that the response of one consumer will affect that of another consumer.

Table 1. Demographical Breakdown of Respondents by Age

	20~29	30~39	>40
Female	14	17	14
Male	15	14	12
Total	29	31	26

As illustrated by Table 1, there is an approximately equal distribution of respondents across the three different age groups, and slightly more females than males in the 30-40 age group and >40 age group.

Table 2 below summarizes the different categories of business models included in the survey, as well as sample questions for each category that were given to respondents.

Table 2. Sample Survey and Questions Used in Study

Business Model	Questions
Business to Consumer (B2C)	<ol style="list-style-type: none"> 1. I enjoy comparing and contrasting different products and prices over the internet. 2. I enjoy looking through advertisements to find the upcoming sales and best deals. 3. I prefer going to websites such as Tao Bao, etc. to find what I want to buy. 4. I prefer sticking to the websites that sell the types of product that I usually use. 5. I usually go to the same website for the same type of products, such as electronics, books, furniture, etc.
Consumer to Business (C2B)	<ol style="list-style-type: none"> 1. I like getting exactly the product that I asked for. 2. I want to save time by not browsing through all the offers and deals on big e-commerce websites. 3. I enjoy purchasing customized and personalized styles of and additions to products. 4. I dislike looking through advertisements and being bombarded by advertisement pop-ups while surfing through internet. 5. I think that spending time combing through catalogues online is a waste of time. 6. I feel that business should serve my needs.
Factory to Consumer (F2C)	<ol style="list-style-type: none"> 1. I often buy specific brands from the brand's personal website. 2. I expect lower prices from products that sold directly from the brand's website. 3. I have membership for several of my favorite brands in order to earn reward points.
Group Business to Consumer (Group B2C)	<ol style="list-style-type: none"> 1. I enjoy the discounts offered by group purchase deals and packages. 2. I usually look for group discounts before looking at individual retail prices. 3. I use group discounts for services such as dining, traveling, and entertainment.
Group Consumer to Business (Group C2B)	<ol style="list-style-type: none"> 1. I expect vendors to offer lower prices if I purchase as part of a group for the same product. 2. I often organize a group of friends to purchase the same product together and negotiate with the vendor or store. 3. My friends and I purchase the same product together in order to negotiate with the vendor or store. 4. I join groups when paying for services such as traveling, entertainment, and hotels.

4 Findings

The findings of our experiment were based on the eighty-six responses to questions about the five types of business models: business to consumer (B2C), consumer to business (C2B), factory to consumer (F2C), group business to consumer (Group B2C), and group consumer to business (Group C2B).

4.1 The Five e-Commerce Business Models

The business to consumer model represents the typical business model based on transactions between business and consumers [3], and where vendors advertise their products to consumers in the hopes of making a sale. In e-commerce, these businesses often advertise their products through online catalogs and databases, and potential buyers can surf through these lists over the internet before deciding on what to purchase. Examples of the business to consumer model include online banking and investing, food and entertainment, and transportation such as airplane tickets.

The consumer to business model, also called reverse auction, is where the consumer becomes the seller and the merchant or vendor becomes the buyer [3], thus switching places compared to the traditional business to consumer model. Consumers can place a maximum or minimum bound on the price of the product or service that he wants, and different businesses compete with each other to bid for the right to provide the consumer with the specified product or service, usually through offering lower prices than what the consumer is willing to pay. In this model, consumers take the initiative instead of the businesses by specifically listing what their needs.

The factory to consumer model refers to the business model where manufacturers and consumers interact directly, thus eliminating the middleman services such as retail stores. In this model, consumers can directly order products and goods from the manufacturer, and receive generous discounts or deals, especially when purchasing in large quantities. These products, however, are often limited to the specific brands that are produced by the factory.

The group business to consumer model refers to when businesses offer special discounts and package deals for a group of consumers purchasing the same product or for an individual consumer purchasing one product in large quantities. These deals are often posted on websites dedicated to offering group discounts from various vendors. Newly established businesses and lesser known businesses often use these group offers as a method of market promotion and brand name building.

The group consumer to business model is very similar to the group business to consumer model, except that the positions of consumers and businesses are inverted. Consumers that want to buy the same product or service join together to form a group, then jointly negotiate with vendors for a better deal than the current market price. These “similar interest” groups can also simply state what product they want to buy and how much in quantity, and different retailers will compete for the sale transaction by offering lower prices than the group’s initially stated price of what they are willing to pay.

4.2 Age Group 20-29

This age group is adventurous and willing to try online shopping on websites from all the business models. They are dedicated to showing off their unique personality and individuality through customized products and gadgets, yet also concerned with saving money through group discounts and purchases. In addition, they believe that businesses should cater to their needs and preferences.

Some statistics:

- 82.7% enjoy purchasing customized and personalized styles of and additions to products
- 68.9% believe that businesses should serve consumers when they specify what they want
- 58.6% enjoy comparing and contrasting different products and prices over the internet.
- 48.3% organize a group of friends to purchase the same product together and negotiate with the vendor or store

4.3 Age Group 30-39

This age group grew up with the rise of the internet age and is the most adept at using online shopping to solve their everyday needs. They use online shopping for almost everything, from products to services, and are happy to browse and search through online catalogs for what they require. They are slightly conservative, staying with the traditional business to consumer model, but are also frequent users of websites that offer group packages and deals, which are often much cheaper than the current market price.

Some statistics:

- 90.3% use group discounts for both products and services such as dining, traveling, and entertainment
- 83.9% enjoy looking through advertisements and catalogs to find the upcoming sales and best deals
- 77.4% prefer to go to websites such as Tao Bao, where a variety of products are offered for sale, rather than a website for a specific type of product (such as furniture or electronics)

4.4 Age Group 40+

This group is perhaps the most traditional compared to the rest. Although they use the internet for work and communication, they do not always choose online shopping and often prefer to go to the actual store to observe the actual product quality and price before purchasing. When shopping online, they mostly stick with business to consumer model websites. Since price is usually a major consideration, they will consider group packages as well, especially for large transactions such as traveling and airplane tickets.

Some statistics:

- 88.5% feel that it is important to compare prices, quality, and reviews of products before purchasing online
- 69.2% prefer sticking to the websites that sell the types of product that they usually use
- 73.1% dislike looking through advertisements and being bombarded by advertisement pop-ups while surfing through internet

5 Conclusion

Through observing the results and statistics, it can be concluded that the age group from twenty to twenty-nine are an ideal target group for consumer driven e-commerce. They are willing to try out all types of e-commerce business models. This analysis is backed by several real life observations. Growing up with the internet integrating with all parts of daily life, they are comfortable with the convenience provided by online shopping and express delivery services. With their fast paced lifestyle and the sea of information provided by the internet, they are unwilling to spend much time browsing and comparing different products and their respective prices. As a result, they prefer consumer driven e-commerce, where they list their requested items or services, and businesses will automatically fulfill these orders within their price limit. Using the services of courier and express delivery, these items can be quickly shipped to the comforts of their home. Finally, they take advantage of social networks [8] to form groups and participate in group discounts and sales offered by vendors.

In comparison, the age group from thirty to thirty-nine is more loyal to the traditional B2C e-commerce model, while the forty and above age group use both internet and physical stores.

In conclusion, the e-commerce market holds vast potential for future growth as the number of online consumers steadily increases. The results of this case study serves to both explore the evolving consumer behavior across different age groups and provide comments on how the various e-commerce business models can be enhanced to better accommodate the needs and preferences of a growing generation of internet shoppers.

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