

*Full Length Research Paper*

## A study on the community online to offline (O2O) operation model in Nanjing

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This study aims to study the online to offline (O2O) operation pattern of Chinese E-commerce and its features; analyze the current development and existing problems of Chinese O2O operation pattern; and explore the domestic O2O development layout of communities in Nanjing. Both qualitative and quantitative analyses are applied in this work. For the quantitative analysis, questionnaire was distributed to some consumers and communities randomly to study their current demands for O2O. 872 out of 900 questionnaire items were finally collected and used. For the qualitative analysis, in-depth interviews on enterprises in Suning, Jingdong and Guomei were conducted to find out the practical problems of community O2O model including their current situation, development trend as well as future development direction and possible measures. 30 interviewees are involved: 6 operators, 6 logistics staffs, 6 delivery staffs and 12 online shoppers. The findings of the study are; the current O2O operation model has attracted a range of consumers and enterprises because it is convenient and accessible, has diversified service categories, values customer evaluation and reduces time and distance to cut down cost, there are existing problems of Chinese O2O operation pattern in Nanjing communities: lack of trust for community O2O model, suspicious attitude towards enterprises certification, inadequate innovation of community O2O model, difficulty in achieving community services standardization and the e-commerce platform has gone through three stages. As the representative of the first generation of e-commerce platform, Ali Taobao is featured by purely online virtual shopping platform. Represented by Tmall and Jiangdong, the second generation of e-commerce platform is characterized by the initial O2O model integrating virtual online shopping and physical stores. The third-generation e-commerce platform represented by Suning, Guomei, and e-commerce enterprises are characterized by community-based customers and standardization.

**Key words:** O2O model, community, E-commerce, Nanjing.

### INTRODUCTION

With the popularity of mobile internet and E-commerce, online to offline (O2O) means the “last kilogram” delivery

of products or services by integrating online and offline resources. Its core aim is to build a platform that links

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consumers and merchants or door-to-door services with community as its focus. It is true that O2O has developed into an in-depth phase, which has greatly met the increasing demands of consumers' "laziness" and stimulated the growth of consumption. As a result, it has been a hotspot to have an in-depth study on the business model and future development of community O2O based on the demands of consumers in the market. In terms of time, Wal-Mart should be the first giant chain supermarket enterprises to deploy "O2O" model in the field of supermarket. In 2011, Wal-Mart bought 20% of the stakes of the "No. 1 shop" with 450 million, and Wal-Mart increased its stake to 51% in 2012. In 2013, the transactions volume of domestic O2O market reached 470 billion Yuan, an increase of 69% compared to that of 2012, showing a great momentum of development.

The practical significance of O2O model can be concluded in the following two points: First, you can provide customers with a judging criterion through online and offline channels. In other words, consumers can compare the value of products selling in the physical store and online shops and then make a choice upon their preference. In this way, customers can obtain the products they like while saving a great deal of money. Compared to the traditional trading model, information flow can help customers receive the information of physical products and prices before entity or value exchange and trading has been achieved, thus facilitating the entity and value flow of products that are in line with consumers' demands and practical value.

Obviously, it is a prominent competitiveness as it has successfully cut down ineffective loss. Second, O2O can cater for consumers' demands and maximize their satisfaction with the help of large data. The traditional physical store, however, cannot achieve this goal, because it is very difficult for them to collect user data. However, a large number of consumers' personal information including user information, payment information, etc., must be provided in the process of delivery, which serves as an essential link of O2O model. With these data, enterprises can make precise judgments on the whereabouts of goods, the demand for goods, etc., which is conducive for reasonable deployment based on these characteristics, and greatly improve the efficiency of marketing. For individual O2O business, it is easier to analyze each of the consumer transactions based on the obtained order data, but it is very difficult for the offline business. Therefore, it is of paramount significance to conduct an extensive study of the O2O model to break the information restriction of offline stores for goods to be displayed and traded at any time and in any place.

### Research hypotheses

Based on relevant studies in literature, the author put forward the following hypothesis:

- H1: Consumers are well aware of community O2O;
- H2: Consumers are receptive to O2O development model;
- H3: Consumers choose O2O products because they are more convenient;
- H4: O2O products can design all forms of products and services meeting consumers' demands

### Research purpose

The research purpose of this research is as follows:

- (1) To study the O2O operation pattern of Chinese E-commerce and its features;
- (2) To analyze the current development and existing problems of Chinese O2O operation pattern;
- (3) To explore possible O2O model catering for community development and proposing feasible suggestions.

### Research scope

The research work covers O2O operating model of the current domestic e-commerce and its characteristics; Consumers' subjective understanding of users' habits and common problems in the daily operation of O2O. The study areas include Baixia District, Xuanwu District, Qinhuai district, Jianye district, Pukou district, Liuhe district and Jiangning district in Nanjing city.

### Research framework

Based on the theory of community O2O theory (consumer behavior theory, information asymmetric game theory, O2O model theory) and the summary of domestic and foreign research, this work provides the following research framework (Cai, 2001; Chen, 2014 and Chen, 2015) (Figure 1).

### METHODOLOGY

This research paper used quantitative and qualitative methods. The researcher used questionnaires to survey the behaviors of the consumers and in-depth interview to explore the O2O operation pattern of Chinese E-commerce and its features and the current development and existing problems of Chinese O2O operation.

#### Quantitative research

##### *Population*

In Nanjing, there are a total of 11 municipal districts, 19 towns, 81 sub-strict offices, 774 resident committees and 590 villages. From the 692 communities in Nanjing, the author selected 65 communities randomly to study the current situation of O2O. The 65

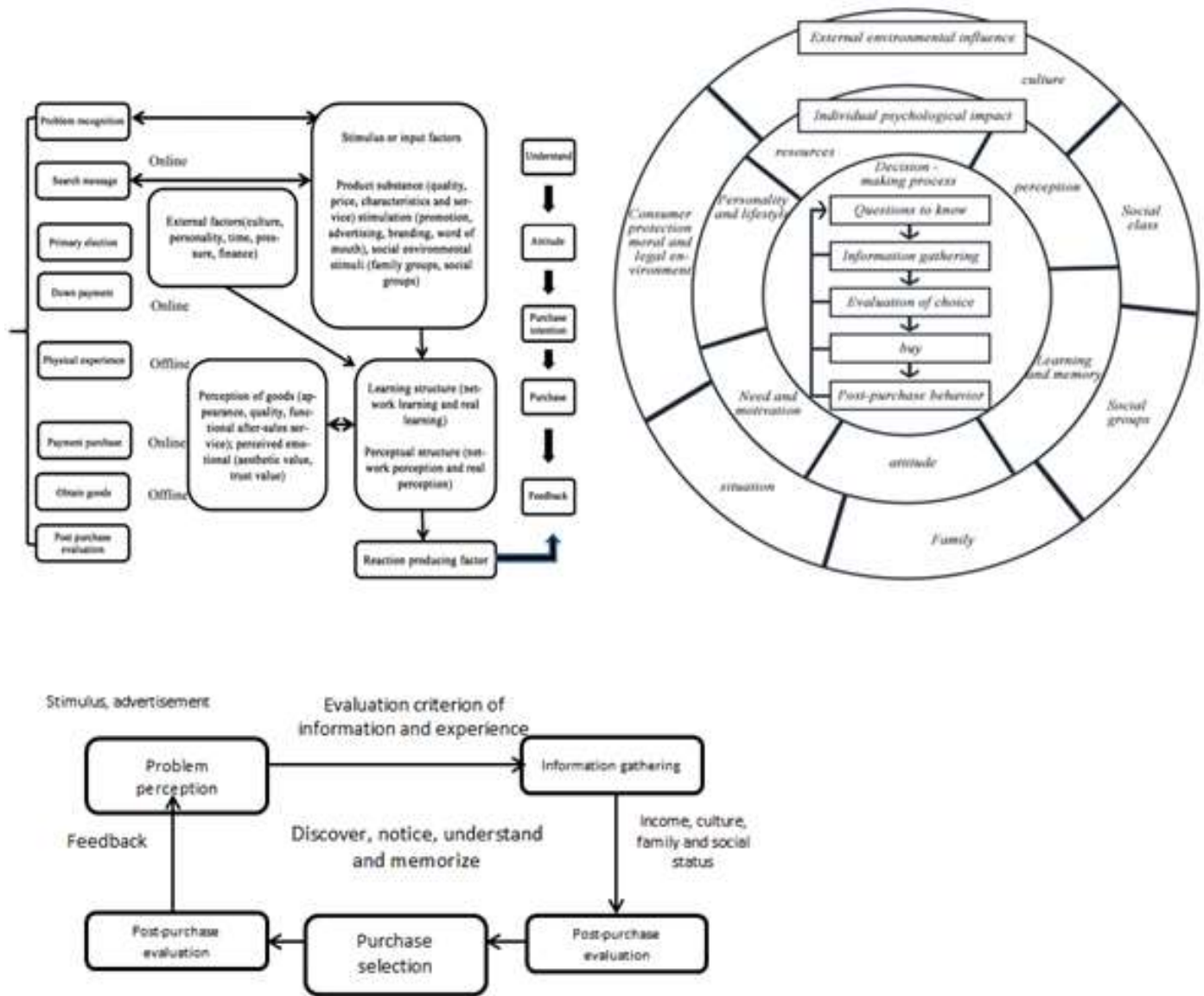


Figure 1. Consumer behavior theory.

communities include 40 in the main urban areas, 15 in suburb and 10 in county side. The 40 districts in the main urban areas have 4.5 million people, and the author selected 5 communities for each district in the main urban areas. Similarly, 15 districts including 2.6 million people were selected from suburbs areas; 5 districts including 800,000 from two counties were selected respectively, totally 900 samples. Nanjing City can be divided into main districts (Baixia District, Xuanwu District, Jianye District, Xiaguan District, Qinhuai District, Gulou District, Yuhua District, Qixia District), suburbs (Pukou District, Liuhe District, Jiangning District) and suburban counties (Lishui County and Gaochun County), with a total of 692 communities. There are 64 communities and 2 villages in Xuanwu District, 106 communities and 6 village committees in Qinhuai District, 43 communities and 18 village committees in Jianye District, 113 communities and 3 villages in Gulou District, 86 communities and 57 village committees in Pukou District, 84 communities and 132 village committees in Luhe District, 68 communities and 49 village committees in Qixia District, 53

communities and 17 village communities in Yuhuatai District, 124 communities and 75 village committees in Jiangning District, 27 communities and 91 village committees in Lishui County, 10 communities and 134 village committees in Gaochun County (Chiang, 2004 and Chu, 2013).

**Data collection tools**

The original intention of the questionnaire is designed to investigate the subjective attitude of community residents and enterprises in Nanjing and their expectation for the future development and current satisfaction degree of O2O operation in communities. Therefore, the designed questions are related to daily consumption habits, consumers' behaviors and desired access to services. As we review the development of the Chinese retail industries in the early half of 2015, we can easily come up with those buzz words such as "e-commerce enterprises", "O2O" and "full channels". From

the perspective of the whole industry, e-commerce has been posing threats to the traditional retail business. In order to face the challenges of the emergence of O2O model, the current retail enterprises are striving to search for the transformation of O2O model. Part of the sample questions are:

(1) Would you like to include water, electricity, air conditioner or coal fee recharge services in community enterprises websites? A. Yes, B. No

(2) Do the products in your community include:

- A. Tobacco, alcoholic or beverage
- B. Daily chemical
- C. Leisure food
- D. Grain and oil
- E. Fresh food
- F. Others (You can choose more than one option)

(3) What are the expected consumption levels:

- A. High level
- B. Middle and high level
- C. Low level

(4) What are the expected per capital consumption:

- A. Less than 10 Yuan
- B. 10-15
- C. 16-25
- D. over 25 Yuan

Questionnaires targeted at consumers were mainly distributed during the breakfast or lunchtime and exercise time in the afternoon. Questionnaires designed for residents in populous communities were mainly filled on the spot; part were brought back home by residents to fill and returned the next day as a supplement. All interviewees were selected randomly. Questionnaires designed for enterprises were filled on the spot. The main urban area, suburb and suburban counties were selected as three independent areas from the whole of Nanjing community by means of sample survey; and five independent communities were selected for each of the independent areas. Aiming at consumers and enterprises in these communities, the researcher conducted comprehensive and in-depth investigation of their attitude and satisfaction towards community O2O. The random survey was targeted at residents in the populace community and questionnaires designed for enterprises were directly sent to the hands of middle managers filled on the spot. Finally, a total of 872 questionnaires were collected and used in this research (Fu and Paul, 1997; Hernandez and Izak, 2011; Hsiangchu and Her-Sen, 2006).

### **Data analysis**

Based on the results of the questionnaire, all data were input into computers to work out the number and proportion of residents and enterprises selecting each option, the average, maximum, minimum and so on.

### **Qualitative research**

The researcher selected 6 operators, 6 logistics managers, 6 distribution managers and 12 online shoppers as interviewees in an attempt to acquire relevant insights about O2O model and some suggestions on community O2O. The interview also aims at gaining some knowledge in the aspects of E-commerce O2O and its development features, consumers' subjective knowledge, expectations for O2O, users' habits and the common problems in the daily operation of O2O.

### **Data collection**

The researcher adopted intensive interview and oral communications with respondents to collect factual materials. Direct interview and personal interview are the two major methods. Direct interview refers to the interaction and negotiation with specific department of enterprises, while personal interview refers to the private communication with some managers in specific department, which is mainly in the form of structural interviews.

### **Data analysis**

All the records of these interviews were collected and summed up without subjective judgment so as to maintain the objectivity and fairness of the results. Some key opinions and data will be classified and summed in clear and simplistic words or phrases. Similar or different opinions about community O2O were classified and coded. All these data and results were theorized in accordance with specific theory model and actual situation of communities.

## **FINDINGS**

The findings of the study are as follows:

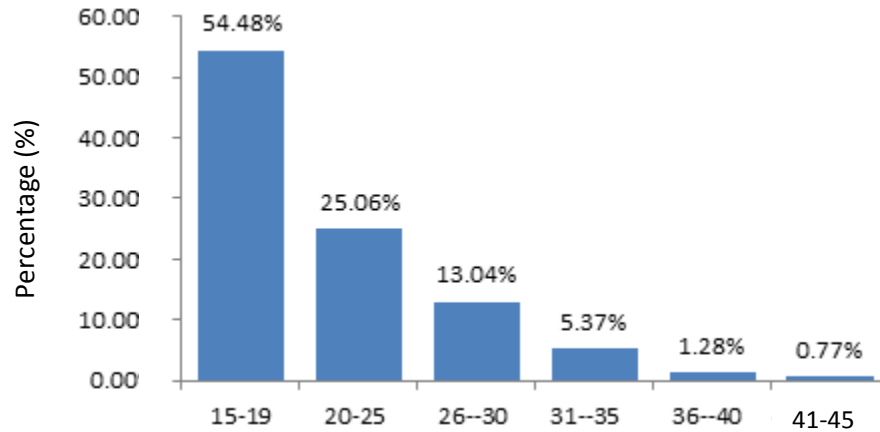
(1) The O2O operation pattern of Chinese E-commerce and its features: The current O2O operation model has attracted a range of consumers and enterprises due to its following distinctive characteristics.

### ***Convenience and accessibility***

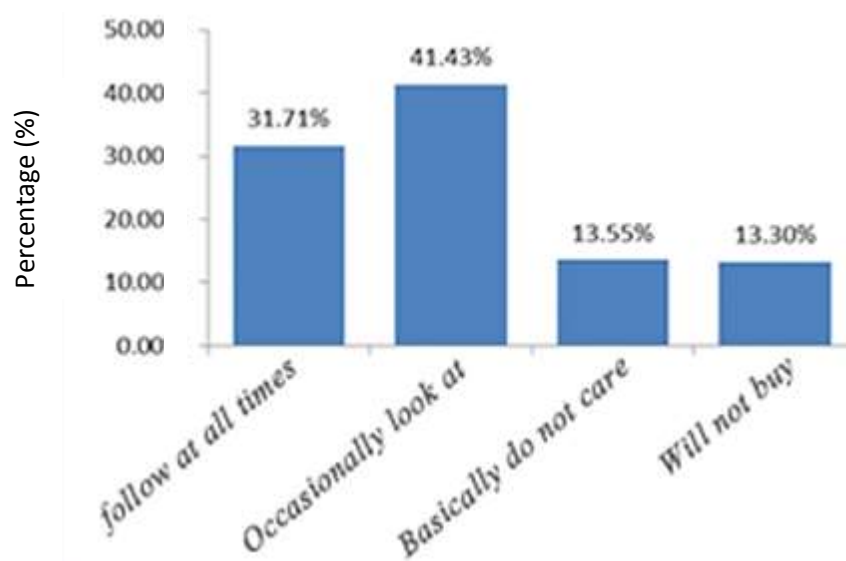
The advantageous location of community e-commerce enterprise is the major reason that consumers will be more willing to try this kind of business model. O2O business model can provide community-based services and convenience is the main factor in consumers' decision-making process. On the basis of service, convenience is also the feature of community O2O consumption. Compared to the traditional sales model, online shopping network can provide 24 hours business, you can always visit the site selection of goods, and provide door-to-door service, in line with rapid pace of urban life, eliminating the consumption of a lot of time and energy; even at late night, you can also choose to buy. At the same time consumers only need to follow the site to provide classified keywords, such as brand, material, color and size. You can directly, according to their needs, target screening, save energy. In addition, consumers pay in freer environment, in line with the pace of urban life fast, eliminating the waiting time and physical consumption, in line with demand psychology (Jiang (2014); Kauffinan et al., 2010 and Kauffinan and Wang, 2001)

### ***Diversified services categories and scope***

Because the foothold is local, through the provision of convenient and efficient form of payment, consumers can save the corresponding labor and incompetent costs. In the community O2O advantage perception, the survey



**Figure 2.** Consumers age composition in Nanjing communities.



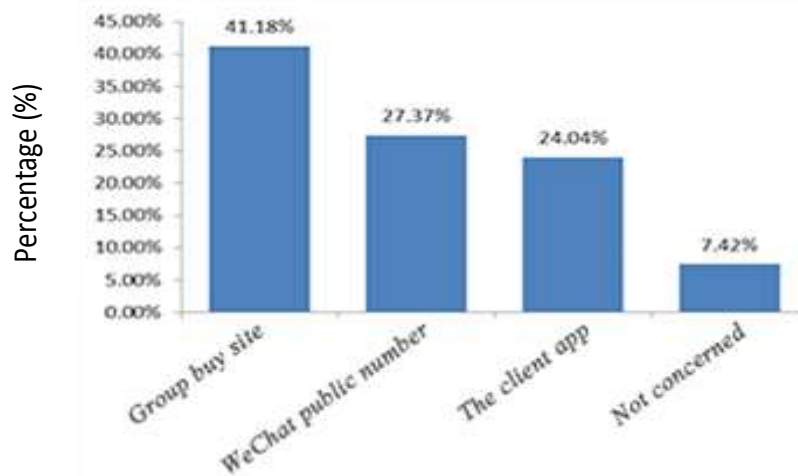
**Figure 3.** The status of Nanjing community residents' attention to online shopping.

found that, in addition to the user's concern about the ease of use, the geographical characteristics of consumer choice to measure weather consumption is also an important indicator. The survey data are presented in Figures 2 to 4. Community O2O mode can provide a variety of services, including taxi, convenience stores, print shops, domestic service and catering services. In these services, one can launch a regional service. For example, in catering services, consumers in addition to meeting the basic needs of diet, also hope that businesses can provide food with regional flavor of the project, making them feel at home with a variety of regional characteristics of food culture, greatly saving time costs. In the community O2O model, all kinds of online businesses to provide product information, in addition to improving the quality of product reputation,

there is the need to take into account the commodity's name and characteristics. Online business platform is filled with a large number of homogeneous goods and services. In order to attract consumers, many businesses do price promotions and other marketing to stimulate consumption; but lowering profit margins, and even reducing the quality of goods, affecting the business of the credibility, are not conducive for long-term development.

#### ***Importance of customer evaluation***

The survey found that consumers are mostly concerned with the evaluation of goods and services when they experience the community O2O business model. Goods



**Figure 4.** Information channels for online shopping of Nanjing community resident.

and services information will be intuitively displayed in the electronic business platform, and the quality of goods, testing, brand awareness compared to the evaluation of the use of goods consumers experience, it is easier to get the user's trust. Many consumers use online evaluation of goods and services and word of mouth; the user reference to these information and trust is the embodiment of head mentality. Although consumers focus on word of mouth and other information, online consumers still retain this mentality. The market recognition of the degree of word of mouth consumer choice is an important factor in online consumption. There are face of online consumption of head mentality and merchants in improving the quality of goods and services; also a number of promotions, such as reviews and other marketing means to return are to improve the recognition of word of mouth (Li, 2015; Liu, 2015; Mingming and Parlar, 2005).

#### **Reducing time and distance to cut down cost**

When there are problems in the process of consumption, 50.23% of the participants choose to return and refund directly, which is the most direct way to solve problem and a lot of time and money can be saved. That is why it is one of the most significant reasons consumers choose O2O offline consumption. From online shopping experience, consumers develop a consumer inertia; if they are not satisfied with the goods there can be a direct refund or return; and line consumption compared to direct online refund saves a lot of cost. This spending habits is followed by the latest form of consumption as a network of O2O consumption. Second, the respondents hope to be able to make third-party payment platform to strengthen the management and coordination in this area, to avoid direct conflict and disputes between buyers and sellers.

(2) The current development and existing problems of Chinese O2O operation pattern in Nanjing communities. The O2O model operation has the following problems:

#### ***Suspicious attitude towards the honesty of community O2O model***

Without users or traffic, operation is impossible. At present, O2O has been widely recognized by residents in Nanjing communities; however, a large number of residents have never heard of O2O. And there is a considerable difference among residents in cities and residents. Although a range of enterprises have adopted campaigns and floor promotion teams to promote their own O2O brands, community O2O mainly provides for local residents. Therefore, providing more qualified and effective services for consumers should be the focus of O2O model and an experience-oriented O2O should be our goal.

#### ***Suspicious attitude towards enterprises certification***

Boasting of a large number of qualified resources serves as the fundamental advantages of O2O operators. However, O2O operators sometimes will lower the bars of qualification examination for enterprises, thus leading to some negative effects on consumers' interests.

#### ***Inadequate innovation of community O2O model***

The relatively clear O2O profits model will inevitably lead to stereotyped development model. Group purchasing websites are the example in point. The development of domestic group purchasing websites generally adopted the same pattern, thus resulting in the so-called

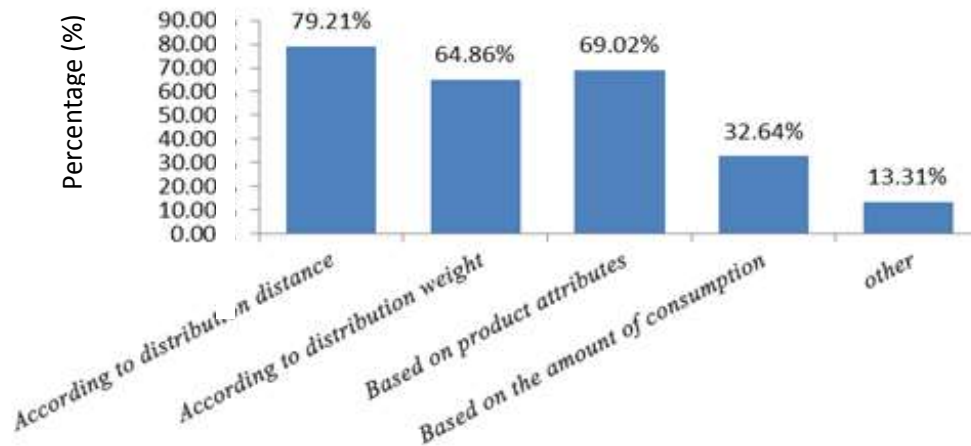


Figure 5. Three main factors affecting the delivery system.

“thousand groups competition”. As a result of the homogeneous competition, group of purchasing industries comes earlier.

#### **Difficulty in achieving community services standardization**

Based on the survey results of community delivery system, we conclude that delivery distance (79.21%), products weight (64.86%) and products categories (69.02%) are the three main factors affecting the delivery system (Figure 5) (Sun, 2014; Wang 2015a and Wang, 2015b).

#### **Factors affecting enterprises' delivery approaches**

As the distance in community service is relatively short, users will be likely to abandon online channels once some problems arise in online services. For example, in laundry, housekeeping and other services, users will be suspicious of the “closed” services procedures, if online services have no advantages or unsatisfying, it will be rather difficult for users to develop high frequent habits. At the same time, as the service quality of community O2O is easily influenced by emotion, environment, personality and learning capability, it is difficult to achieve rapid replication. Meanwhile, different communities vary in their geographic features, group characteristics and consumption habits. Therefore, it is nearly impossible for O2O enterprises to simply adopt the standardized services models. In other words, they have to invest much more money and time in the whole process.

(3) The domestic O2O development layout of communities in Nanjing. From the perspective of the business model, the e-commerce platform has gone through three stages:

(a) As the representative of the first generation of e-commerce platform, Ali Taobao is featured by purely online virtual shopping platform.

(b) Represented by Tmall and Jiangdong, the second generation of e-commerce platform is characterized by the initial O2O model integrating virtual online shopping and physical stores. The B2B2C model represented by Alibaba's Tmall, and the B2B2C model by the cooperation between Jingdong and other enterprises aim at combining the channels between online stores and offline physical stores, thus leveraging the advantages of online and offline stores. However, there are still loads of problems to be dealt with, such as the conflicts between the online and offline organization infrastructure and channels, between their own products and competitive products, between the products prices of multiple stores. Only if their problems are solved, can we fully utilize the online and offline resources and advantages.

(c) The third-generation e-commerce platform represented by Suning, Guomei, and e-commerce enterprises are characterized by community-based customers and standardization. This online platform of these enterprises serves as the basis of the third generation of e-commerce platform. Some powerful physical retail enterprises establish their own online mall or launch their own online store with the help of third-party online platform. Most of these enterprises are targeted at community intended to provide high-quality goods and services to consumers in the region through integrated online and offline services as a way to compete with large e-commerce enterprises.

#### **RECOMMENDATIONS**

E-commerce enterprises community O2O model is the core of the construction of system, but even the perfect system cannot guarantee the success of e-commerce

company community O2O model. At the start of community O2O building period, an e-commerce company must conduct scientific analysis on consumers' consumption capability in the target areas prior to the exploration, manage online and offline interactive customers flow during the exploration and timely make adjustment in accordance with the management situation.

First of all, enterprises should select the most appropriate partners. As selecting partners, both e-commerce companies and community companies should be taken into consideration. Secondly, much efforts should be made in guiding online and offline customers traffic. E-commerce enterprises and community enterprises attach great significance in guiding online-to-offline and offline-to-online customers flow driven by community O2O model. Besides that, online-offline interactive customers flow also stays at the core of the building of full channels sales platform under the community O2O model. Therefore, the current O2O model operators should further enhance promotion; improve residents' awareness of e-commerce enterprises community O2O model and its advantages.

Furthermore, much efforts should be made in improving consumer's recognition and engagement of community O2O model, community online supermarkets and community We Chat malls. Thirdly, enterprises should eliminate the advantages of single customer source. Actually, the official websites are the best example of generating added value by replacing advertisements and counters costs with operation costs. In this way, consumers can search for more products information to keep in touch with the latest stores dynamics.

Most importantly, consumers will form a relatively higher reputation for the network marketing shop and eliminate their insecurity for the store reputation. Meanwhile, official websites can help to guarantee the legitimate rights and interests of customers, as they can resort to products' descriptions and announcements released on the websites and take legitimate measures to safeguard their rights and interests whenever conflicts or disputes occur.

Fourthly, enterprises should strive to forge multiple operating and profit model. Although O2O profits model is relatively clear, it would inevitably lead to homogeneous development patterns, while the O2O operating models in other countries are relatively multiple and diversified. For example, house renting, social taxi renting and customized services are all available. Furthermore, the profit model is rather flexible, with some charging for users, some enterprises and some advertisement. The specific operating strategies are determined in line with the specific conditions of local communities. Only in this way, can mutual benefits and synergistic development be achieved.

Finally, many efforts should be made to construct a complete honesty system. Just as the CEO of Iduona put

it, "honesty is an essential component of success as well as a kind of intangible wealth." The building of a complete honesty system is of immeasurable significant to the practice of entrepreneurship-oriented e-commerce practice and even the positive development of the whole e-commerce industry. We should conduct strict qualification examination for O2O businesses through 315 Certificate Authority and other official platform so as to elevate certificate standards. Legitimate business license and relevant procedure should be approved.

### **Research prospects**

In the markets with relatively mature network channels, it is quite difficult for independent O2O physical channels to survive and grow. The combination of "low prices" and "high cost" will result to lose in a rather long time. Therefore, the following three aspects must be taken into consideration as enterprises are in their exploration of O2O physical channels.

#### ***Operation models of O2O physical channels***

If O2O physical channels are operated in the model featured by independent channels, they will face fierce competition with the traditional and network channels. That is to say, they must open selling channels, expand business, increase consumers' acceptance and invest more money, which is involved in higher risks. Enterprises adopting this model must take products categories, services, logistics and traveling time into consideration. If enterprises do not choose O2O physical channels as independent operating channels, but cooperate with network channels, then they will form a full-channel mode with network channels as the core and supplemented by O2O physical channels. If there are no adequate funds, by cooperating with network channels, enterprises can take full advantage of both the traditional physical channels and the network channels to provide qualified O2O services and experience and lower the threshold of O2O channel development.

#### ***Product categories of O2O physical channels***

O2O physical channels should choose to sell customized, differentiated products, and it is not necessary for them to adopt low price strategies, which are generally adopted by network channels. Instead, they will try to make them more competitive by virtue of supreme on-site experience, logistics, and after-sales service. Bearing in mind both the price and service, they have formed a more distinctive comprehensive strategies "feature goods + feature services", which has effectively improved customer acceptance of the O2O physical channels and



promoted sales.

### **Site selection of O2O physical channels**

Community O2O is based on community, which is conducive to reduce the capital risks. The key to community O2O is to select the appropriate products that are relevant with people's everyday life, instead of unpractical commodity display. The site selection of O2O physical channels means that the community is indispensable for community O2O. By leveraging the popularity and population traffic, we can achieve the goal of promotion.

### **CONFLICT OF INTERESTS**

The authors have not declared any conflict of interests.

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