

8th International Conference on City Logistics

The Development of the Parcel Delivery Service and its Regulations in China

Katsuhiko Hayashi^{a*}, Toshinori Nemoto^b, Satoshi Nakaharai^b

^a*Ryutsu Keizai University, 120 Ryugasaki Ibaraki, 301-8555, Japan*

^b*Hitotsubashi University, 2-1 Naka Kunitachi Tokyo, 186-8601, Japan*

Abstract

This paper reviews the development of the parcel delivery market both in Japan and China, and presents a conceptual model to explain the development of the parcel delivery market in order to explain the characteristics of development processes in China compared with those in Japan. In China, the franchise system plays an important role to expand the network in a short period, while it is difficult to keep the same service quality throughout the network. This is why Chinese consumers have complained to the parcel delivery services and Chinese governments have introduced new rules and regulations. Furthermore, we investigate the actual situation of parcel delivery operations in Shanghai, and discuss the impacts of regulations including city logistics policies on the Chinese parcel delivery market and future directions of them.

© 2014 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Selection and peer-review under responsibility of the Organising Committee of the 8th International Conference on City Logistics.

Keywords: Parcel delivery; regulations; China; B to C; franchise

1. Introduction

Recently, the mail order market and the e-commerce market in China has grown rapidly, corresponding with the country's economic growth. Since those items ordered in such a market must be delivered, the parcel delivery market is also likely to develop, and in fact, many companies are entering the market. However, the service quality

* Corresponding author. Tel.: +81-297-64-0001; fax: +81-2897-64-0011.

E-mail address: ka-hayashi@rku.ac.jp

of the parcel delivery service in China is still poor compared to that of foreign countries and the number of complains made by their customers is increasing.

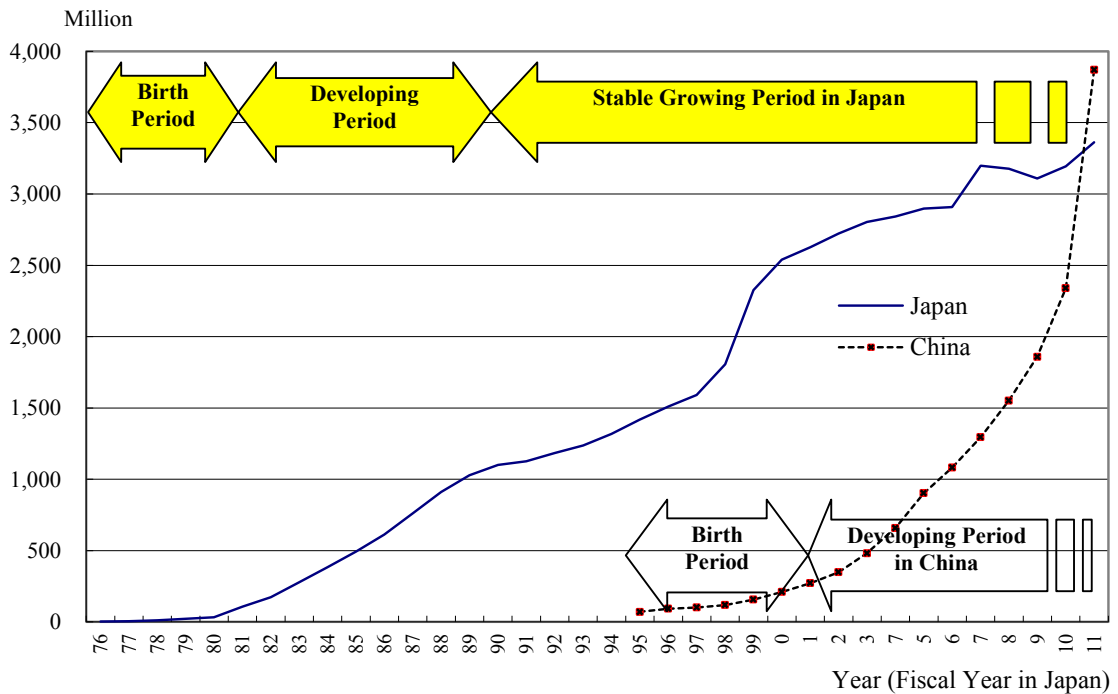
The main objective of this paper is to review the development of the parcel delivery market in Japan and China to establish a model to explain the development of the parcel delivery service, and using the model to comprehend the process and characteristics of the development of Chinese parcel delivery market. Also, through the field research focused on the franchise system, which is a major characteristic of the Chinese market, how the regulations including city logistics policies affect the service operations of the local companies is examined.

2. The Development Model of the Parcel Delivery Market

In this chapter, a model to analyse the factor of rapid market growth in China is established, referring to the market development in Japanese parcel delivery service.

2.1. Development stage of the parcel delivery market

Fig. 1 shows the rapid growth in the Chinese parcel delivery market. The annual revenue of the parcel delivery market in China is 75.8 billion RMB and 3.87 billion items were delivered in 2011, which already outnumbered those of Japanese market. The Chinese government is expecting further growth, 143 billion RMB with 6.1 billion items in 2015. The Chinese parcel delivery market is in the rapid development stage from its beginning.



Note: The numbers in Japan from 1976 to 1980 only include the one delivered by Yamato Transport.

Source: China Logistics Publishing House (2011), Ministry of Land, Infrastructure, Transport and Tourism, Yamato Transport.

Fig. 1. Number of parcels delivered in China and Japan

Reviewing the development of Japanese parcel delivery market, Nakada, Ozawa, Azumi, Miyao & Umemura (1994) categorized the growth process of Japanese market into 3 terms. Term 1 (1976 to 1981) is the “birth period” where many companies entered the market, seeing the success of pioneer companies. Term 2 (1981 to 1989) was the “developing period” where many companies were competing in the market, although facing strict regulations on trucking business. The competition realized the rapid growth in the number of deliveries. Term 3 (after 1989) is the “stable growing period” where the development of the market seemed to be more stable. Comparing how the market has grown in Japan with how it’s developing in China, some similarities in both cases can be found. Thus it may be beneficial to establish a conceptual model to explain the development of the parcel delivery market to analyse differences between the markets in two countries.

2.2. Parcel delivery operation

The demand for parcel delivery services is stimulated by the expansion of the network and the improvement in the service quality. Looking at the data of Yamato Transport, the number of deliveries increased dramatically when their network expanded. Yamato only delivered 30,000 items in 1975, but 1.7 million items in 1976 when they covered 10% of Japanese land area, 73 million items in 1982 with 50% of the land covered, and 750 million items when they finally reached 100% cover area in 1997.

Saito (2002) explains that the cost of the network expansion is so high that the national postal companies, such as Japan Post and China Post, are likely to lead the market first. However, service quality does not often improve in such a monopoly situation, thus private companies find opportunities to enter the market. These new market entries lead to competition that helps to improve the service quality of the whole market. The improvement of the service quality may increase the number of users, and the parcel delivery companies again may expand their network.

2.3. Network expansion

The network of delivery service expands mainly in two ways; the direct management system and the franchise system. The speed of expansion and the service quality are the big differences between these systems. In Japan, parcel delivery companies constructed their network directly when entry regulations were strict.

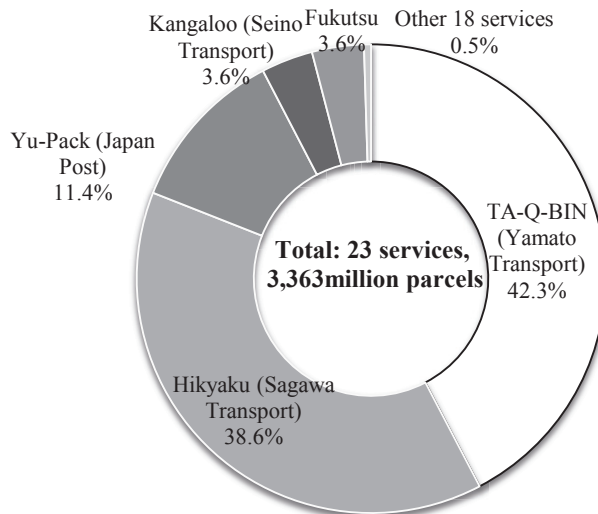


Fig. 2. Shares of Japanese parcel delivery market by companies in FY 2011 (Source: Ministry of Land, Infrastructure, Transport, and Tourism)

During the competition of service quality improvement, some companies that can hugely invest for delivery network and information system gained superior position, ended up with market oligopoly. Many smaller companies under franchise system have been disappeared because of poor service. In 2011, Yamato Transport occupied 42.3% of total parcel delivery market, and followed by Sagawa Transport with 38.6%. More than 80% of total market has been dominated by two companies as shown in Fig. 2.

The top three companies employ direct management systems in order to increase level of service. For example, Yamato Transport established a nationwide network with about 70 base terminals and 6,000 branches in order to achieve next day delivery as shown in Fig. 3. About 54,000 sales drivers are picking up and delivering 1,423 million parcels a year with care.

Nemoto, Hashimoto, Ishihara, Hayashi, Saito, Takano et al. (2012) studied the existence of “network economies” in the parcel delivery market. The network expansion enables people in newly covered areas to order parcel deliveries, which increases the number of items delivered in a manner of combination algorithm, and decreases the average cost of each item delivered. Due to the existence of this kind of economy, the market oligopoly by companies that can invest to expand their network large enough occurs in the parcel delivery market.

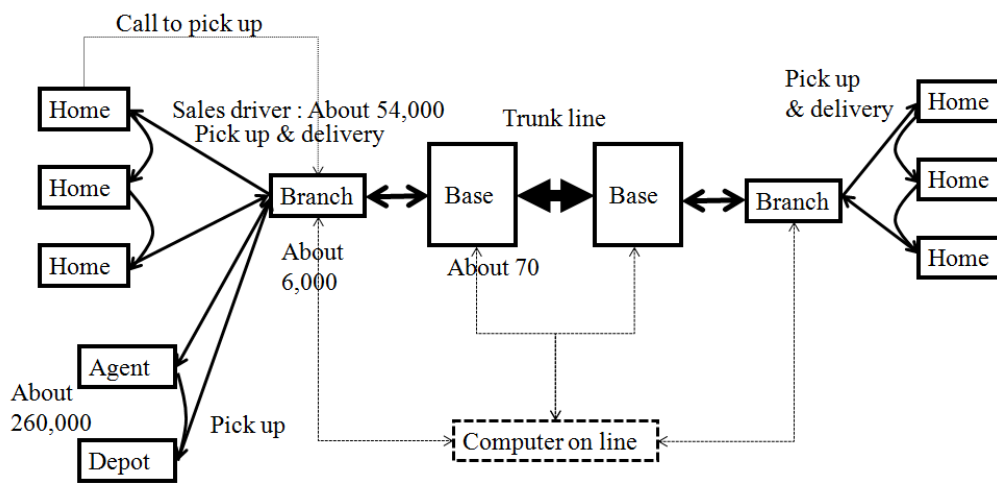


Fig. 3. Direct management system by a Japanese parcel delivery company (Source: Yamato Transport)

2.4. Consumers and enterprises

In Japan, the demand of parcel delivery service generated in C to C situation, when people try to send gifts to their friends and parents send commodities to their children. The Japanese tradition of putting heart into the gifts does not allow any damage to the gifts they send, which demanded high service quality to the parcel delivery companies. Later on, during the “stable growing period,” the consumers asked for faster and more convenient services.

The parcel delivery companies have been competing with each other by upgrading their services, such as improving the speed of collection and distribution, and promoting their staff education. Later on, new services were added by answering various needs of consumers; like golf equipment delivery services, ski delivery services, cold delivery services. Later on, the competition to differentiate delivery services by creating such new services has been getting more difficult as shown in Table 1.

In the 1980s, parcel delivery service was used more in B to C situations as a channel for mail order and home delivery directly sent from farmers or fishers, which were getting popular by using advertises not only in newspapers or magazines but also on television or radio. Recently, the number of parcels used in B to C has grown rapidly, mainly because many consumers are willing to use on-line shopping.

In addition, the use of parcel delivery is increased in the case of B to B logistics, where high-frequency small logistics is taking place. Parcel delivery in B to B situation originated with the emergency delivery of documents and spare parts. Later on, the transportation demand for small goods with high value, such as sample goods and electronic parts increased. Traditionally, B to B transportation was not so frequent in collection or so short in transportation time, but high value items are considered reasonable to be transported by parcel delivery services.

Table 1. Development of new services related with parcel delivery (Yamato Transport)

Year	Service
1984	Started Golf TA-Q-BIN services(Golf equipment delivery service to golf course).
1986	Started the Collect Service.
1988	Started Cool TA-Q-BIN services (temperature controlled delivery) across Japan. Started night-time deliver service.
1989	Began sales of Airport TA-Q-BIN (Narita Airport).
1992	Began sales of TA-Q-BIN Time Service (time definite service).
1996	Started operation during year-end and New Year's holidays, realizing operation 365 days a year.
1997	Started Kuroneko Mail-Bin services across Japan.
1998	Started the Parcel Inquiry System on our homepage. Started Time Zone Delivery.
2000	Began sales of TA-Q-BIN Escrow Service, an intermediate settlement service for internet auctions.
2001	Started Kuroneko@Payment (credit card service), an advance settlement service for credit cards.
2002	Started TA-Q-BIN Email Notification Service. In addition to announcing the scheduled date/time of parcel delivery to customers by email, the service allows customers to change the date/time zone for receipt to fit their schedule.
2004	Started "Kuroneko Yamato Driver Direct," a service where regional Sales Drivers contact customers directly by mobile phone in order to offer speedy responses to customer requests.
2005	Added "Payment with Credit Card at Delivery," "Payment at Convenience Stores or Post Offices," and "Payment Online or with Mobile Phone" to the existing product settlement services of "Payment on Delivery" and "Advance Settlement by Credit Card." Started TA-Q-BIN Collect, a total settlement service for mail order dealers.
2006	Started "TA-Q-BIN Convenience Store Take-Back Service," which allows customers to receive TA-Q-BIN which could not be delivered because of absence. Parcels can be received at specified convenience stores and sales offices.
2007	Started the individual member's service "Kuroneko Members." The inaugural service was "Easy Label Issuing Service," which enabled issuance of shipping labels at "Neko Pit," a service terminal installed at the reception desk of TA-Q-BIN Centers.
2009	Started Solution Model for business customers (Today shopping service, Multi-maintenance solution, Net-super support service, Global direct, Web controlled shipping).
2010	Started TA-Q-BIN business in Singapore and Shanghai.

Source: Yamato Transport

2.5. Government

Other factors for improving service quality of the parcel delivery are the complaints from users and regulations and deregulations by government. The parcel delivery companies receive complaints from their users when their service quality is at a low level. By answering those complaints, the service quality improves. In addition, there are cases in which the government takes the lead to set the standard level of service quality and introduces concerned regulations. In Japan, for instance, the government introduced the standardized agreement that refers to the delivery date, the load limitation, the range of responsibility, etc. Chinese government also introduced the model of delivery service operations that is stricter than the standardized agreement of the Japanese government.

The business regulations including entry regulations also affect the service quality. In Japan, there were some cases where the parcel delivery companies could not meet users' potential demand, which later led to deregulations. The deregulation to the "Cargo Forwarder Service Act" and the "Act on Service of Cargo Transportation by Automobiles" affected the network expansion and transportation fee for parcel delivery companies. In China, the business regulation for transportation companies are loose so that many small and medium sized truck operators were providing collection and distribution services in small areas, like within a certain city. There are companies providing parcel delivery service nationwide by franchising these small truck operators, but the government is trying to instruct their operation strictly by introducing the operation model.

The government's relationship with national postal companies is another factor. In Japan, postal privatization led "Yu-Pack" of Japan Post to integrate with "Pelican Service" of Nippon Express, which currently is at third place in the market share. On the other hand, the relationship between government and national postal company is stronger in China.

Reviewing the process of the development of the market, the conceptual model of parcel delivery service development can be drawn as Fig. 4.

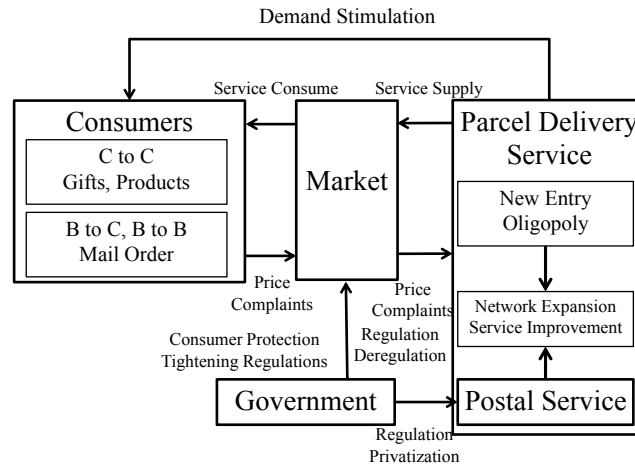


Fig.4. Model of the parcel delivery market development

3. The Development of the Parcel Delivery Market in China

In this section, we take a deeper look into the developing process of supply and demand of the parcel delivery market in China by applying the model proposed in the previous section. The role of the government is discussed in a latter section.

3.1. Parcel delivery operation

In China, there are about 7,500 companies with permission to give the parcel delivery services at the end of 2011, most of which are small and medium sized enterprises and work as a franchisee. In most cases, these truck operators are not given the job directly from shippers and consumers, but rather they are given the operation of collection and distribution from their franchisers. In these franchise systems, though they have advantage in low transportation charge, their low service quality due to lack of stable education and training is considered to be a big problem.

There used to be only state enterprises such as EMS (China Post), China Air Express (CAE), China Rail Express (CRE), Sinotrans Air (SINOAIR), with nationwide network in Chinese parcel delivery market. However, recently, appearance of private companies with national network such as Shentong Express, YTO Express, ZTO Express, Best Express (HTKY), and Yunda Express can be observed. Foreign express companies such as FedEx and UPS have also expanded national network as well as international services. They expanded their network by themselves or by organizing operators in rural areas as their franchisees.

The state enterprises used to play dominant role in parcel delivery market, but private companies including foreign companies have grown rapidly. Private companies including foreign companies delivered 70.6% of total parcels and state enterprises did 29.4% in 2011 (Fig. 5).

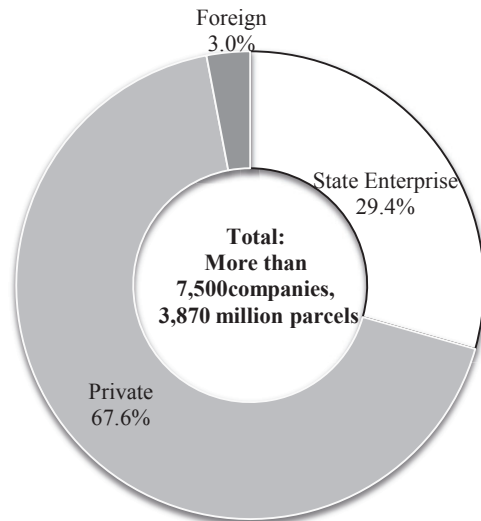


Fig. 5. Shares of Chinese parcel market by type of ownership in 2011(Source: China logistics publishing house, 2011)

3.2. Network expansion

Network management can be categorized into two groups; the direct management system and the franchise system. The franchise system is faster and cheaper when expanding the network, especially advantageous in the countries with a huge land area, like China. However, it is rather difficult to keep service quality at high level, which is a disadvantage of the franchise system. Recently, companies employing direct management system are expanding their market share with high service quality as their business strength. There are two major companies employing the direct management system; one is EMS (China Post) and the other is S.F. Express. They have their branches in cities all over China.

On the other hand, 5 major companies employing franchise system are intensely competing in the market. They are Shentong Express, YTO Express, ZTO Express, HTKY, and Yunda Express. They make franchise contracts with many local companies to expand their network to all China (Table 2).

Table 2. Number of logistics facilities by major parcel delivery companies

	EMS	S.F. Express	Shentong Express	YTO Express	ZTO Express	HTKY	YUNDA
Number of Logistics Facilities (Worldwide)	45,000	4,000	5,000	5,000	4,000	5,000	10,000
Type of Management	Direct	Direct	Franchise	Franchise	Franchise	Franchise	Franchise

Source: Home page of each company

3.3. Consumers and enterprises

In China, the demand for the parcel delivery services arose in B to C situation, as a transportation channel for mail orders and online shopping. In contrast, the use in the C to C situation is limited compared to the Japanese market, because of the difference in tradition of sending gifts to others. Furthermore, on-line shoppers or consumers concentrate in large cities so that parcel delivery services are developed there intensively rather than in the whole countrywide.

Recently, the lifestyle of people in China is changing rapidly due to their rapid economic growth. One of the areas where those changes can be observed is the mail order market. There still are people using TV shopping and

catalogue mail order, but the number of people shopping online is rapidly increasing. Accordingly, the number of items related to online shopping is increasing in the parcel delivery market. In 2010, 42% of the items delivered related to online shopping, which equals to 35% of sales. Many of those online shopping related items are delivered by companies with franchise systems; in fact 65% of the items delivered by Shentong Express and YTO Express are related to online shopping.

In many cases, the delivery rates for mail order deliveries are set lower than normal deliveries, which mean the profit is smaller for mail order deliveries. However, in the case of mail order deliveries, the origin of the transportation is concentrated at one certain warehouse, so that the cost of collection decreases as well. Especially in China, the discount competition in online shopping is being intensified, thus free delivery services are becoming the mainstream in the market. The parcel delivery companies need to deliver sufficient amounts of items to survive in such a market, which gives us an idea that the market oligopoly still continues for a while.

As the number of the deliveries increases, the number of complaints made increases as well. China Logistics Yearbook shows the number of complaints made in 2009 and 2010 as below (Fig. 6). Many of the complaints from users are related to either the operation quality or the delivery time. The reasons for increasing number of complaints are thought to be 1) low service quality due to low delivery rates as a result of intensified competition, 2) difficulty of staff education and training due to franchise management systems, and 3) consumers' demand for high service quality.

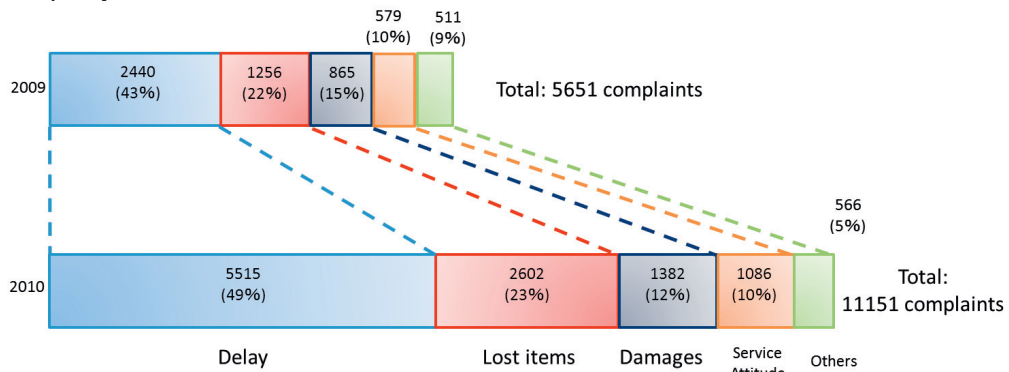


Fig. 6. Complaints from consumers on parcel delivery services in China (Source: China logistics yearbook 2011)

4. The Field Survey of the Parcel Delivery Company with the Franchise System

4.1. The summary of the investigation object

To grasp the actual situation of the franchise system, which is the major feature of the Chinese parcel delivery market, the authors visited and investigated a major parcel delivery company in Shanghai, which is one of the largest online shopping markets in China, in August of 2011. The destinations were 1) the distribution depot of a franchisee in the city, 2) the transit facility among franchisees, and 3) the terminal between cities. The first two facilities were located inside Outer Ring Expressway (S20), and the last terminal is located near Shanghai Hongqiao International Airport (Fig. 7).

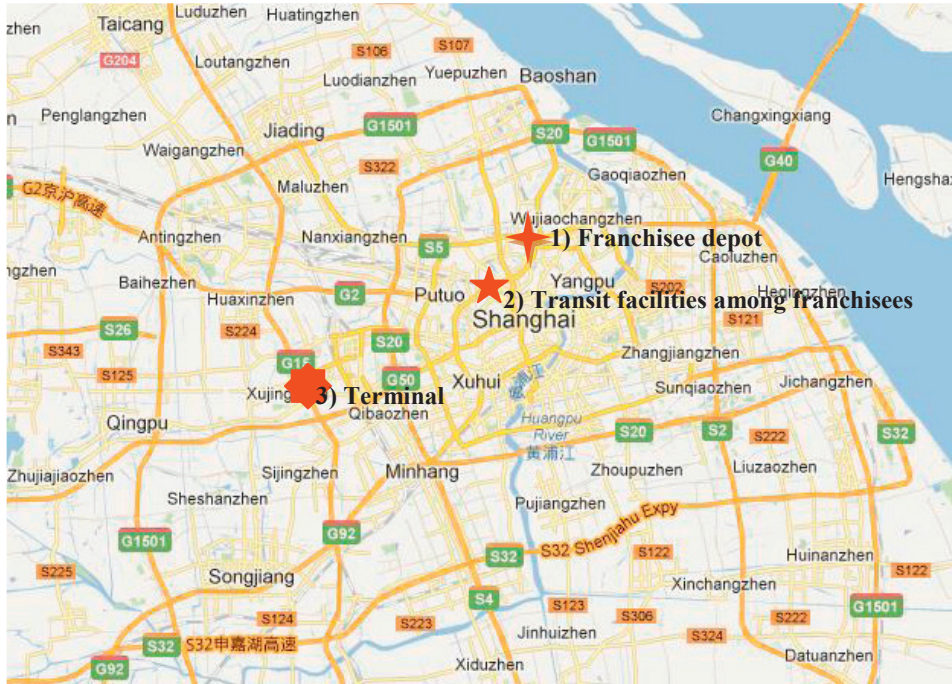


Fig. 7. Location of facilities surveyed in Shanghai

The franchiser constructs the national transportation network and operates the trunkline (partly outsourcing) and terminals between the cities. The franchisee, on the other hand, does the deliveries and sales in the contract area. The profit allocation for items less than 5 kg that was delivered within Shanghai city is follows (the price of the service is 8.0 RMB): 5.2 RMB for collection franchisee, 1.8 RMB for the franchiser (1.5 RMB for the standardized invoice and 0.3 RMB for terminal charge), and 1 RMB for delivery franchisee (Fig. 8). To raise the incentive for sales, the profit is allocated higher for the collection, but it is important to keep the motivation of all the franchisees by properly allocating the profit. Also, to keep the service quality, the training of staff including those of the franchisees is conducted.

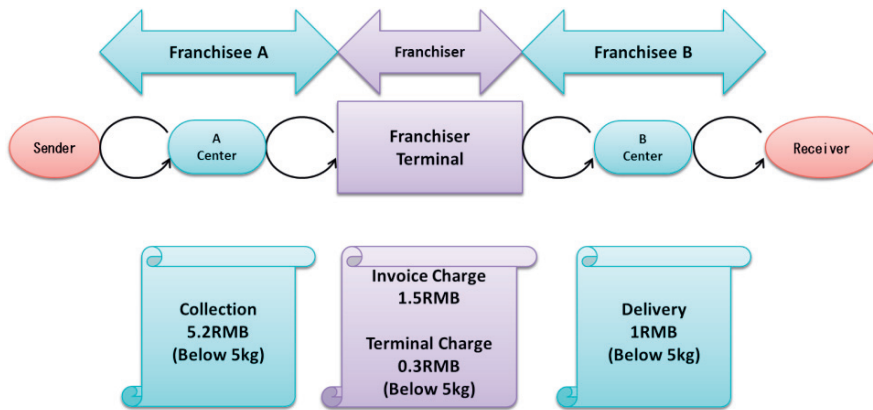


Fig. 8. The profit allocation among franchiser and franchisees

4.2. Distribution system

At the franchisee distribution depot in the city, the staff deliver items using electronic bicycles because of entry regulation of trucks and bicycles in urban areas. In Shanghai, only a limited number of small trucks having governmental permission are allowed to run as we will describe later. The transportation is at poor condition since the load capacity is limited, which makes the deliverers to put the items in their bags or tie them directly to the electronic bicycles. The sorting of the items at the depot is handled by hand, items are put directly on the floor and the boxes were often damaged.

There are barcodes printed on the invoice and they are read by handy terminals. There are not enough handy terminals for every deliverer so that information on collecting and distributing the parcel at the consumers is not always stored. Thus, items can only be tracked basically from and to the distribution depot, and only some important items can be tracked from the collection to the distribution.

The items collected are then transported to other facilities, using small trucks and vans. Those items to Shanghai area are transported to the transit facilities and those to other cities are transported to terminals.

4.3. The transit facilities between franchisees

Those items delivered within Shanghai are unloaded, sorted and loaded at the transit facilities between franchisees. The facility the authors visited was located under a expressway, without any facility for transit operation. Truck drivers sort their items by their own hands, and exchange their items with other truck drivers who are going to that direction. The items are placed directly on the ground of parking lot, thus the robbery, loss and damage of items are of concern. The sort and exchange of invoices and information input are done in the parking lot, not at the offices. The vehicles bringing items are mostly vans and many of them were temporary workers without uniforms.

4.4. The terminal between cities

The terminal between cities for the franchiser is located inside Shanghai Qinghong Logistics Park near Expressway G15. The items are unloaded from trucks, sorted and placed on pallets by directions manually. Then the pallets are moved by hand-forklifts to trucks transporting to the destinations and the items are loaded on the trucks manually again. Though the items were sorted by hand, there are plans to install belt conveyers and automatic sorting machines.

These pallets are used for sorting only within the terminal in order to achieve full-load capacity of trucks and to prevent loss of pallets. Since the load factor is their priority, there are no shelves in the truck, so that some items of lower place may have been damaged by the weight of other items on top.

5. The Regulations to the Parcel Delivery Services

In Japan, the strict business regulations were barriers for operators' innovative ideas and network expansion effort in the process of development in the parcel delivery market. On the other hand, some operators caused problems such as cargo accidents, delivery delays, and leaving items to neighbourhood without permission when receiver was not at home. Thus regulations that protect consumers, such as the standardized agreement played some role to keep their service qualities. In case of China, where the market is developing rapidly, the role of regulation systems to the parcel delivery service is more important than ever to keep both service qualities and healthy competition.

5.1. Business regulations

According to "Express market management approach" published in 2008 by the government, the parcel delivery is defined as, "a postal service of individually packed item such as letter or parcel with receiver's name and address

written, that is immediately collected, dispatched, transported, and delivered, and receiver's signature is necessary." By the way, according to the "Amended Postal Act" (2009), those postal services with weight and charge below a certain level can only be operated by China Post. To supply parcel delivery service, permission is necessary. Major requirement is about the registered capital, which is 1) 500,000 RMB for business limited within province, direct-controlled municipality, and autonomous region, 2) 1 million RMB for national business, and 3) 2 million RMB for international business. The first group is applied to postal management department of concerned area and the other two groups are applied to the postal management department of the State Council.

5.2. *Service regulations*

"The model for express business operational guidance" distributed by the State Post Bureau on August 11, 2011 defines the service level that needs to be met at each stage of collection, sort, trunk-line transportation, and delivery.

For example, in the stage of collection, "the company must collect the item within two hours and bring the item to their base within three hours from the time of receiving the order," and "placing the collected item to unattended storage area is prohibited" (Article 9). Also, according to the Article 11, "visual inspection system must be established and practiced at the collection," so that the security measures for explosive materials are obligated.

In the stage of sorting, "the items brought into sorting facility must be sorted in that day" (Article 21). In addition, Article 26 requests for two people to attend at the trunk-line transportation. In the delivery stage, "for the items those arrived at the delivery base before 3:00 p.m., the initial delivery must be practiced on that day" (Article 28), "the deliverer must give a phone call to the receiver before the delivery to confirm the address and delivery time" (Article 29), and "when handing the item to the receiver, the deliverer must notify the receiver to inspect the item" (Article 30).

These detailed regulations at each stage of the parcel delivery are to answer the increasing complaints from consumers. When looking at development of the parcel delivery market in China, the network expanded rapidly by making franchise contracts with small local trucking companies, which made the franchisers difficult to keep their service quality at a high level.

Like we saw in the last section, the real operation of the local franchisee is in difficult condition to comply the process regulated in "the model." Although, the franchisers instruct franchisees to thoroughly train their staff, the extremely high rate of job separation makes them unable to keep up with staff training. It seems difficult to thoroughly instruct staff to inspect each item when receiving and not to put the items at unattended place, when the items they need to handle are increasing rapidly. Also, there are some cases where the entrance of unauthorized person cannot be eliminated at the storage and sorting facilities, because of fund shortages.

5.3. *The traffic regulations on delivery vehicles in the densely populated areas*

Another characteristic regulation in China is the vehicle regulations. For example, in Shanghai, only the trucks with "BH" on their number plate can drive in the centre of the city during the daytime. If you don't have a BH number, you need to get a special license or make a franchise contract with a company that already possesses a BH number. This kind of vehicle regulations makes it difficult for only one certain company to conclude the transportation of parcel delivery from the origin to the destination in China.

Another example of vehicle regulation is a motorcycle regulation seen in Central Guangzhou. Motorcycles are an important vehicle for collections and deliveries for parcel delivery companies. Thus, companies operating in concerned areas are facing further contrivance.

As the countermeasures for urban transportation problems, traffic regulation for heavy vehicles, motorcycles and bicycles are introduced in many cities in China. Such regulations make the metropolitan traffic smooth and have certain effects for improving the traffic environment. On the other hand, these regulations not only reduce the efficiency of logistics and service quality, but they may also increase the amount of traffic because of transit from heavy vehicles to smaller vehicles. Especially in parcel delivery, where quick and flexible transport is required, the impact of vehicle regulation is huge. The parcel delivery may also play a role as an alternative service for shopping

traffic using passenger vehicles. It also has characteristics of public service as it consolidates the goods of many and unspecified consumers. Taking these features into account, vehicle deregulation may be applied exclusively to the parcel delivery services.

5.4. The government's policy to develop the parcel delivery market

In the twelfth five-year plan, the State Post Bureau aims for handling 20 million items a day and complete the delivery within 72 hours in 90% of the deliveries in major cities. Some of the goals related to the parcel delivery market include the concentration and the reorganization on a national basis, the modernization of the industry, the establishment of consumers' rights, and the stock offering of EMS.

"The model" introduced in the previous section corresponds to the modernization of the industry and the establishment of consumers' rights. Also, stock offering of EMS has taken place in 2012, and the government's shareholding ratio dropped to 63%.

6. Conclusion

Through this paper, the development and regulations of the parcel delivery market in China was reviewed applying the market development model. Although, there were some similarities with the early development in Japan, some unique features could be observed in the development of the Chinese market.

From the suppliers' point of view, the major feature of the market is the application of the franchise system for their network expansion. It is comparatively easier for parcel delivery companies to expand their network with a franchise system where existing operators of each city are organized instead of establishing the new operators by themselves. Yet, there also is a difficulty of keeping the service qualities because the franchisers cannot educate all the franchisees' staff directly. Although the direct management system is preferred in the service quality point of view, it seems to be difficult for the majority of private companies to provide funds and human resources to expand their network. Only a few companies seem to be able to apply direct management systems now and may increase their share to lead market concentration in the future.

From the demand point of view, the major target are the consumers making B to C mail orders. Also, the number of complaints is increasing corresponding to the demand expansion that needs to be dealt with. In order for the Chinese parcel delivery market to keep developing, improvement of the service quality is necessary.

In Japan as well as in the West, oligopoly by the companies applied with direct management has been progressing. Although the situations differ between China and these countries, companies of direct management system is foreseen to increase the market share as Chinese consumers need more sophisticated delivery services.

Concerning regulations, the market entry is comparatively easier, while industry education by the government is intensified aiming the assurance of the service qualities and consumer protection. There also exist some particular systems that affect the market development, such as the traffic regulations on delivery vehicles. These regulations and systems should be designed to take into account that the parcel delivery services play an important role by consolidating shopping trips and reducing transportation demand.

Although Japan has introduced some regulations and rules to protect consumers' benefit, those companies with poor service that cannot observe the rules have disappeared. A few private companies with creativity have developed parcel delivery services with the highest quality in the world. Especially in China where some state enterprises still deliver large amount of parcels, some regulations may lead to unfair competition between national and private companies. Instead of introducing excessive regulations, we expect to spread higher quality services through fair competition among companies.

Rapid development is expected in the Chinese parcel delivery market. The main interests are that if the franchise companies can improve their service qualities, if the direct management companies can expand their network all by their own, and if the government can develop the parcel delivery market as they wish. Also, the market entry by Japanese, European, and American parcel delivery companies are taking place, thus the intensification of competition in both service qualities and prices is expected.

This paper focused on the analysis of the franchise companies, thus the analysis of the domestic direct management companies and foreign companies are future issues.

References

- China State Post Bureau (2011). The model for express business operational guidance.
- China Logistics Publishing House (2011). China logistics yearbook 2011.
- Fu, H., Youbei, H. & Xuxu, W. (2007). Development of China C2C E-commerce from the perspective of goods delivery. *The international federation for information processing*, 132, 179-186.
- Nakada, S., Ozawa, T., Azumi, T., Miyao, Y. & Umemura, K. (1994). Report of the study on analysis of parcel delivery market. Institute for Posts and Telecommunications Policy.
- Nemoto, T., Hashimoto, M., Ishihara, S., Hayashi, K., Saito, M., Takano, S., Sasaki, K., Kosaka, T., Oshima, N., Fu, Z., Nakaharai, S. & Miyatake, K. (2012). Logistics Network planning in parcel delivery service. The Japan Research Center for Transport Policy.
- Sasaki, N. (2006). International parcel delivery service and logistics in East Asia. *Transport Policy Studies*, 8(4), 49-52.
- Saito, M. (2002). The secret of the parcel delivery service, Tokyo: Ochanomizu Shobo.
- Sha, E. (2011). Study on the future of parcel delivery service in China. Master's Thesis at Tokyo University of Marine Science and Technology.
- Taniguchi, E. & Nemoto, T. (2001). *City Logistics*, Tokyo: Morikita Publishing.
- Yamato Transport (1991), 70 Years History of the Yamato Transport: 1919-1990.