

# Network Building in Online Retailing and Relational Model by Marketing Concept

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**Abstract**—Approximately 20 years have passed since physical grocery retailers entered the online grocery market. Consumers' online shopping demand has continued to increase since then. Thus, retailers, especially larger retailers, have had to invest in building networks in online retailing. However, it is not easy to build networks to earn profit. This study considers how to create valuable networks in view of industry concentration based on the U.S. and Japan. It also discusses the typical types of networks by comparing these cases. It then identifies marketing issues by type and examines one of these and identifies the relational model by utilizing marketing aspects.

**Index Terms**—online retailing, network relationship, marketing, logistics

## I. INTRODUCTION

Leading firms in the industry must construct further networks to retain their positions as well as to improve their business. They then invest to create networks directly or even acquire some other firms to widen networks. Regarding retail industries in developed countries, leading firms have invested their capitals or have acquired competitive retail firms for expanding their sales areas and obtaining potential consumers. The leaders have strengthened their abilities and the concentration ratio in the industry has been increased. A strategy to develop a retail firm's enhancement is to broaden sales areas by opening new stores and to widen its store formats such as supermarkets with convenience stores, drug stores, and dollar stores. Developing physical networks brings sales improvements to firms as economies of scale work well such as selling products at low prices by ensuring a large supply of products at once.

Since the early 2000s, especially around the 2010s, retailers have tended to invest their capitals to build online businesses as well as to open new physical stores. With the growth of online selling, traditional brick-and-mortar retailers have added the online channel, thus becoming multichannel retailers [1]. Retailers have to consider the importance of investments for online selling systems, building new networks.

Pure online retail players have existed since the mid-1990s and some have developed significantly. Thus,

leading physical stores have entered the online selling market. Pure online players mean non-store retailers, but leading physical stores have to manage both brick-and-mortar stores as well as non-store operation systems.

The term, "Omni-channel" is well-known especially in the Mobile Retailing Blueprint ver.2.0 brochure published in 2010 [2]. It states "customers experience a brand, not a channel within a brand" then "retailers leverage their 'single view of the customer' in coordinated and strategic ways." Retailers have to develop customer-retailer touch points.

Retailers dealing in groceries (grocery retailers) have to give substantial consideration to the process and service they provide. They sell perishables, fishes, meats, and chilled foods as well as dry groceries and frozen foods. Other than non-food retailers, the former cannot keep fresh and chilled products for extended periods in stock rooms or even at the distribution centers. They deliver such products to online shoppers living in very limited areas or online shoppers can use the "click and collect" service and collect their orders from physical stores. Leading traditional retailers have to construct the ideal networks through which they can sell and deliver any products to online customers.

How are the new networks for online shopping systems constructed by physical grocery retail firms? Have leading firms willingly constructed these networks? How much do the networks affect the grocery retail industry? Each retailer may construct the network according to its strategy and the difference between retailers may therefore affect the operational results.

It has been over 20 years since online players emerged. Although there are studies on the effect of cross channel marketing and customer's choice, and the effect on physical stores, there is a relative lack of research on systems of networks constructed for Omni-channel retailing.

This study considers how to create valuable online shopping networks for traditional physical grocery retailers, and considers the impact on the industry using examples in the U.S., where pure online retailers emerged very early and has been one of the largest online markets ever since. It also discusses the examples of the grocery retail industry in Japan, the third largest e-commerce market, compares the cases in the U.S. and highlights the differences. It then identifies types of online networks and it determines issues by types in view of marketing. It

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also discusses other issues and presents possibilities in view of marketing and relational partnerships of further online shopping networks by physical grocery retailers.

## II. LEADERS' CONCENTRATIONS AND THEIR NETWORK CONSTRUCTIONS

This section discusses the current situation of the grocery retail industry in the U.S. First, the shift in concentration ratios is discussed and whether leading firms have been much stronger is confirmed. Market leaders' actions are also examined.

### A. Concentration Ratios

According to the U.S. Census, the four firm concentration ratio in the supermarket sector increased from 16.0% to 32.5% between 1992 and 2002, the eight firm concentration ratio from 26.5% to 45.6%, and the 20 firm concentration ratio from 39.9% to 57.3% respectively<sup>1</sup>. For 2017, the market share of the four largest supermarket firms was 36.1%, 48.0% for the eight largest, and 63.0% for the 20 largest. These figures clearly indicate the leading firms have strong power in the sector.

### B. Leaders' Actions: Physical and Spatial Expansions

Changes in concentration may occur through different rates of organic growth of firms, entry and exit, or mergers and acquisitions. A given level of concentration has led to concerns about the potential impact on prices, quality, and even innovation [3]. A positive effect of market power, concentration, or firm size on innovation is that innovation increases with firm size due to scale and scope economies in the production of innovations [4]. Regarding the retail industry, one of the innovative activities must be creating Omni-channel technological systems.

During the 1990s, traditional grocery retailers invested their capital to open new stores and build distribution centers to broaden their sales areas, that is, physical expansion. On the other hand, from the early 2000s, they also gradually started to invest to evolve the new online selling systems and have invested significantly since around 2015. This kind of expansion can be expressed as spatial rather than physical expansion. Such leading grocery retailers have to manage both physical and spatial expansion. In other words, they have to consider the impact of spatial expansion on physical scale.

### C. Concentration in Non-store Businesses of Grocery Retailers

Large firms may be impelled to invest capital for both physical and spatial expansion. Such investment is assumed to bring retailers increased market share in both brick-and-mortar and online grocery retailing sectors.

This study examines the market leaders share of the sector in the case of the U.S. Based on the top 30 retailers in 2019 published by Progressive Grocer, retailers are

categorized by top 1–10, top 11–20 and top 19–30. The data of these retailers' sales at physical and non-stores are gathered and calculated in each category. As illustrated in Fig. 1, the top 10 retailers' non-store sales ratio is 89.0% and is 8.8 points higher than the physical store sales ratio (80.2%).

Fig. 2 presents the top 10 retailers' sales ratios by store type from 2012, which is when physical retailers started to enhance investment for fresh foods sales via online orders, to 2020. The retailers ranked from 11 to 30 also invested in online technical systems but the top 10 retailers occupied 85–90% of the market. Large-sized retailers have a significant impact on the market, selling fresh food and dry groceries online. Their strong position can create new technical and innovative networks to gain online market share.

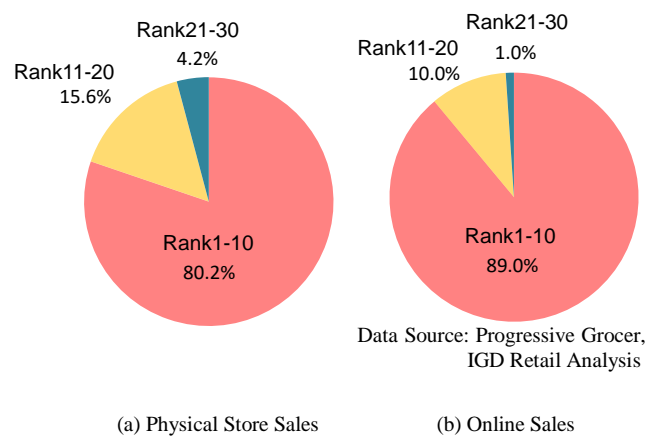
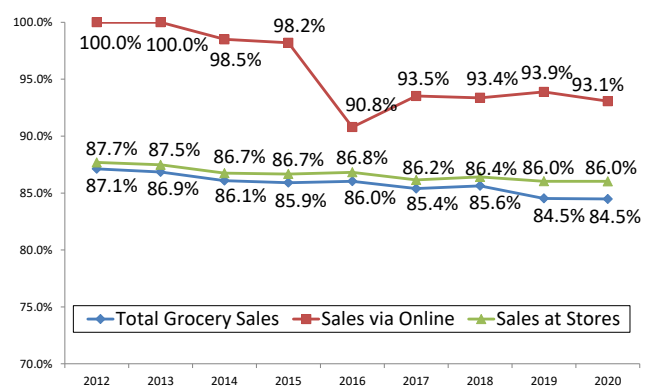


Figure 1. Sales ratios by sales rank category



Data Source: Progressive Grocer, IGD Retail Analysis

Figure 2. Top 10 retailers' series ratios by store type

## III. NETWORK CONSTRUCTION IN THE U.S. GROCERY RETAIL INDUSTRY

In the case of the U.S. grocery retail industry, it is confirmed that larger firms strengthen online networks through their investments and they become larger. This

<sup>1</sup> The census produces detailed statistics including employment and sales or revenue size for establishments and firms; concentration of largest firms.

study identifies the types of networks in the industry and their effects on their businesses and their marketing.

#### A. Types of Networks

The online networking system in the grocery industry can be basically divided into three types. One is the own construction type. This means that firms build systems themselves with technology firms, acquire appropriate firms such as online site firms, delivery companies, and even affiliate with special skilled companies. For example, Walmart and Kroger adopt this type of network.

Another type is the acquiring stores type. Pure online retailers merge or acquire physical stores and build the networks to sell fresh foods stocked in stores to customers who order via online sites. The current study discusses how physical grocery retailers establish online networks. It should be noted that there are the cases pure online retailers enter the physical grocery retailing market. In addition, it is obvious that pure online retailers are also required to obtain the brick-and-mortar stores to sell fresh groceries even via online. Amazon.com adopts this type of network. Since 2017, it has sold fresh products via the online channel covering small areas in Seattle. In the same year, Amazon acquired Whole Foods Market, positioned 9th in the supermarket chain ranking in the U.S. with 436 stores at that time. This type of network can also be included into the as both firms have mainly constructed their own networks.

The other type of network is outsourcing. Retailers entrust elements such as online orders and delivery to the customers to outsourced firms. Click and collect services, in which customers order online and collect shopping purchased at stores, are very popular in the U.S. grocery retailing market. Customers also like to receive goods at home and some retailers affiliate with companies such as Instacart, which offers same day grocery delivery and pick-up service for retailers and consumers. For example, Publix adopts this type of network.

#### B. Retailers' Networks (2015 and 2020)

The top 10 grocery retailers ranked in 2019 all have some form of online network construction. Table I compares their networks between 2015 and 2020. In 2015, seven retailers were operating their own site but only four managed online businesses to sell fresh groceries [5]. Walmart, the world's largest retailer, started its online business in 2000 but did not sell fresh groceries online until 2013, when it began test sales of fresh products in Denver, Colorado. Kroger, the largest supermarket chain in the U.S., began testing online selling of fresh products in 2015. Therefore, most of the retailers, including Walmart and Kroger, affiliated with online grocery platform companies such as Instacart and Shipt at that time.

One of the reasons even large retailers did not start online fresh grocery selling earlier is the items they deal with. Most grocery retailers deal with perishables such as meat and fish. This has led to differentiation in their strategies. The sales ratio of fresh groceries is typically

estimated at around 60 percent of all products in a supermarket. These products are also regarded as important for the supercenter format, which has sales areas of more than 200,000 square-feet with more than 60% non-food products. The format developed from the discount store format with groceries. Many retailers that sell groceries in any type of stores emphasize fresh groceries. National retailers had to ensure fresh groceries were delivered on the same day if consumers ordered via online and had to invest their capital to ensure their networks functioned nationally. Some of the regional retailers started online grocery orders and deliveries in early 2000, but national retailers only did so after 2010.

The other reason is the third-party online grocery platform company. For example, Instacart was born in 2012. It offers same day grocery delivery and pick-up service for retailers and consumers. Physical retailers affiliate with the company once and the retailers do not need to make their own networks. In 2015, Instacart expanded its business from 15 states to all 50 states and Target, one of the largest retailers in the U.S., and Wholefoods Market affiliated with it at that time.

In 2020, eight retailers managed online businesses to sell fresh groceries. Most of these retailers also affiliate with Instacart as they complement to deliver across wide areas, while Amazon has not affiliated with the company.

TABLE I. TOP GROCERY RETAILERS' ONLINE NETWORKS IN 2015 AND 2020

Company Name		Own Site in 2015	Third Party in 2015	Own Site in 2020	Third party in 2020
1	Walmart	Yes		Yes	Yes
2	Kroger	Yes*		Yes	Yes
3	Albertsons	Yes		Yes	Yes
4	Ahold Delhaize	Yes	Yes**	Yes	Yes
5	Publix		Yes		Yes
6	H.E.B.	Yes*	Yes	Yes	Yes
7	Meijer		Yes	Yes	Yes
8	Wakefern	Yes		Yes	Yes
9	Aldi			Yes	Yes
10	Amazon.com	Yes*	Yes**	Yes	

Source: Yokoi [5], Progressive Grocer, Annual reports

Notes:\* It operated its own online site, but it did not deal with fresh groceries. Kroger and H.E.B. only conducted pilot tests for fresh grocery selling via online.

:\*\*Parent companies Ahold and Delhaize merged in 2016. Delhaize affiliated with the third-party online platform at the time in 2015 but Ahold did not. Amazon.com acquired Wholefoods Market in 2017 then operated only its own site in 2015 and Wholefoods Market affiliated with the third-party online platform at that time.

A total of two retailers do not yet operate their own online platform. Aldi USA has not operated any online businesses so far but launched a pilot partnership with Instacart to offer grocery home delivery in three U.S. markets in 2017 and expanded to the national level with e-commerce delivery after that.

As retailers cannot deliver fresh products everywhere they open stores by themselves, most have partnerships with Instacart to complement their own competencies. They also insert new technologies in their networks by affiliating with technological ventures. These include automated picking at fulfillment centers, applications supporting both online and offline shoppers, AI-powered application that provides consumers with personalized recommendations about recipes to order via online, digital advertising on online platforms, robot deliveries, drone deliveries, and self-driving vehicles, for example. Some larger retailers have built micro-fulfillment centers next to stores or dark stores and utilize the latest technologies. Hence, it is clear that some retailers invest their capital to develop the Omni-channel networks further.

### C. Effect of Marketing Strategy by Each Type

Shoppers can enjoy online shopping whether retailers offer their own site or third-party online platforms as they can order online and receive their purchased goods from delivery providers. Retailers have different strategies and even the top ten largest grocery retailers can be divided into at least two main types: constructing and outsourcing online networks. Larger retailers do not all adopt the same type as each has its own specific strategy. Furthermore, marketing strategy may differ by type. This study considers how marketing strategy is affected.

By comparing the 4Ps of marketing and marketing research, one of the fundamental elements, for physical stores and that for online stores, Table II shows that marketing at online stores can be varied and lead to certain advantages. Leading retailers operate both online and offline stores but it can be more advantageous if they conduct marketing research as they obtain data from both online and offline customers. For instance, such a retailer can determine whether a consumer purchases products at offline or online stores after viewing a commercial on a retailer's online site, and also whether a consumer purchases products via online after stopping at stores or just via online. This is because if a retailer's network already offers Omni-channel availability to consumers, it is easier for a retailer to connect data via customers ID and determine whether a customer used a website or mobile application.

Meanwhile, Table III shows that marketing via third party platforms is less varied and has fewer advantages compared with marketing at offline stores. In terms of Place, a delivery service is advantageous for a retailer with a third-party online platform but otherwise it is not compared with that at offline stores. Specifically, despite its importance, the research aspect of future marketing strategy seems to be lacking. This means a retailer operating its own online network experiences more advantages than a retailer conducting its online operation via a third-party online platform company.

TABLE II. DIFFERENTIATION BETWEEN ONLINE-OWN SITE AND OFFLINE AT 4PS OF MARKETING AND RESEARCH

	Own Online Site		Own Physical Stores
Products	-Deal with variety of products -Possible to deal with products of other categories	>	-Deal with products within store space
Price	-Easier to control changing prices	=	-Easier to control changing prices
Place	-Deliver anywhere even a store is far for consumers	>	-Sell for consumers who come to stores ONLY
Promotion	-Promote at own site by collaborating with suppliers -Upload online promotion s immediately	>	-Promote inside stores, hand out flyers and coupons on newspapers but taking time
Consumer Research	-Make research with all data from online and offline shopping from customers	>	-Make research with data from offline shopping from customer ONLY

TABLE III. DIFFERENTIATION BETWEEN ONLINE WITH THIRD-PARTY PLATFORM AND OFFLINE (4PS OF MARKETING AND RESEARCH)

	With Third-Party Online Platform		Own Physical Stores
Products	-Deal with products at stores ONLY	=	-Deal with products within store space
Price	-Easier to control changing prices	=	-Easier to control changing prices
Place	-Deliver anywhere even a store is far for consumers	>	-Sell for consumers who come to stores ONLY
Promotion	-Possible to carry commercial messages on third-party platforms	≈	-Promote inside stores, hand out flyers and coupons on newspapers but taking time
Consumer Research	-Possible to obtain data from third-party platform company	≈	-Make research with data from offline shopping from customer ONLY

## IV. CURRENT SITUATION IN JAPAN

This section compares the current situation in Japan with that in the U.S. It also examines the characteristic differentiations and considers specific issues.

### A. Concentration Ratios

Concentration ratios of the supermarket sector in Japan were lower than in the U.S. However, this has increased as larger retailers acquired competitive retailers. The ratio in 2019 is calculated by utilizing data from Current Survey of Commerce at Ministry of Economy, Trade, and Industry and retailers' annual reports. Between 2010 and 2019, the four firm concentration ratio rose from 19.4% to 19.7%, the eight firm concentration ratio from 30.2% to 32.5%, and the twenty firm concentration ratio from

52.8% to 48.9%, respectively. This is strong evidence that the leading firms have strong power in the sector.

#### *B. Leaders' Network Construcions*

Although the retail industry has the largest number of employees in any industry in Japan, it has experienced lower profitability than other industries. The ratio of profit to net sales in the food manufacturing industry is around 10% but the ratio is around 1–3% for large grocery retailers. Compared with the ratio of large grocery retailers overseas such as Walmart and Kroger, the ratios are still very low. Monetary value is an important predictor of consumers' channel usage intention, followed by perceived utilitarian value such as time, convenience, information attainment, assortment seeking, and price comparison [6]. For retailers, introducing a new channel, the online channel, may make the most of the aforementioned benefits. Entering the online market rather than increasing the number of stores is expected to reduce fixed costs and generate profits for large Japanese retailers.

In fact, some Japanese grocery retailers started online businesses in the early 2000s. Seiyu, a former wholly owned subsidiary of Walmart, started its online business in 2000 when it was not affiliated with Walmart. Ito-Yokado, the consolidated subsidiary of Seven & i Holdings Ltd., started its online business in 2001. Aeon, a global retailer, started later in 2008. Life, the top ranked supermarket, started online businesses even later in 2012. Regional grocery retailers also gradually started to open online stores since then.

As of 2020, four out of the top five general merchandising stores (GMS) companies selling from groceries to furniture founded their own online networks, and eight of the top ten supermarket companies also operate online networks. One of the top five GMS started test selling products via online channels in 2021. One of the top 10 supermarket companies also started to test it and the other affiliated with Amazon to open stores on Amazon's site in 2021. Large grocery retailers in both formats began to operate online stores. Research by the National Supermarket Association of Japan, Japan Supermarket Association, and All Japan Supermarket Association reveals that only 15.4% of supermarkets in Japan were operating an online grocery selling system in 2020 [7]. In all retailers building online networks, 45.5% are operating more than 51 stores. Therefore, it can be seen that large grocery retailers in both the U.S. and Japan are investing to create online networks.

Most retailers construct online networks such that they receive orders via online, pick products within stores nearest the delivery destination, and deliver purchased goods to customers. Some utilize single-purpose distribution centers for online businesses, but these have appeared somewhat later in the 2010s.

#### *C. Characteristic Differentiation and Types of Networks*

There are characteristic differentiation points compared with the networks in the U.S.

One is that "click and collect" has not been developed in Japan. Only 1.1% of retailers provide such services [7]. There are fewer instore spaces to stock purchased goods and then retailers commit to deliver the goods via third-party delivery providers. Regarding deliveries, consumer demands are high, thus the click and collect system has not been significantly developed. A total of 18.4% of retailers indicated they would like to offer a service for customers to deliver purchased goods at stores in the near future although only 5.9% responded that they would like to offer click and collect services [7]. Of the retailers operating more than 51 stores, 3.4% indicated they intend to offer click and collect services in the near future and 31.0% had no plan to do so. These findings imply that consumers would like retailers to deliver purchased goods via online or offline but retailers have not yet fully developed the click and collect system.

Furthermore, there is not an online grocery platform offering same day grocery delivery and pick-up services for retailers and consumers. Retailers operating their own online site receive orders, staffs pick the ordered goods at stores, and delivery providers are requested to send the purchased goods to customers.

Some retailers affiliate with pure online retailers managing marketplaces such as Amazon Market Place and Rakuten Market, which is one of the largest marketplaces in Japan. These may be replaced by online grocery platforms such as Instacart in the U.S. Retailers operating in marketplaces tend to request delivery from delivery providers. For example, Life, one of the largest supermarkets, has operated its own online site since 2012 and it also affiliated with Amazon.com to open its shop on Amazon's Prime Now in 2019. Life is able to utilize Amazon's system and its networks, which cover more customers than those of Life. Seiyu on the other hand also affiliated with Rakuten in 2018 and they have collaborated to operate their online grocery selling system.

Network types are categorized into two types and these are not perfectly matched with those in the U.S., but are almost the same, that is, retailers' own operating networks or retailers affiliating with third-party networks.

In terms of marketing strategies, it implies that in both Japan and the U.S., a retailer operating its own online network gains more advantages than a retailer whose online operation is via a third-party company.

#### *D. Expansions and Issues*

Retailers operating their own online networks have invested their capital to enhance their networks. In 2019, Aeon affiliated with Ocado, the British completely online operator. The largest Japanese retailer will build a new technological distribution center for its online network by 2023, with Ocado providing its newest technology. It will include technologies such as artificial intelligence and robotics in the center. Ito-Yokado will also establish a new distribution center for its online network in 2023. It will include the newest technology to manage the process from receiving orders, picking goods, to delivery.

In 2019, Life affiliated with a third-party logistics group and established its own delivery-related company with another group began making deliveries in 2021.

Retailers have plans to build technological distribution centers to reduce time of picking goods and of preparing deliveries and some retailers enhance their networks with delivery companies to deliver goods on time.

However, there are issues due to delivery labor shortages. As the aging phenomenon continues in Japan, the aging population also affects the logistics industry, including delivery providers. This is because active truck operators are also aging [8]. In addition, according to The Japanese Ministry of Land, Infrastructure, Transport, and Tourism [9], the number of courier parcels has gradually increased since 1992. In 2018, the number of parcels was 4.3 billion, up from 3.2 billion in 2008, and 1.8 billion parcels in 1998. Therefore, given the challenge of increasing the labor force, it is necessary to address this issue from different viewpoints.

#### V. DELIVERY ISSUE RESOLUTION BASED ON MARKETING

Retailers try to resolve the delivery issue by establishing technological distribution centers. It may be ideal if retailers invest more to build additional technological distribution centers and if delivery providers increase the number of drivers. However, the demand for delivery is expected to increase and current drivers will be aging; hence, it may not be easy to resolve the issue.

This study considers this issue from the viewpoint of marketing concepts. Fig. 3 illustrates the relational partnership model based on marketing and delivery aspects.

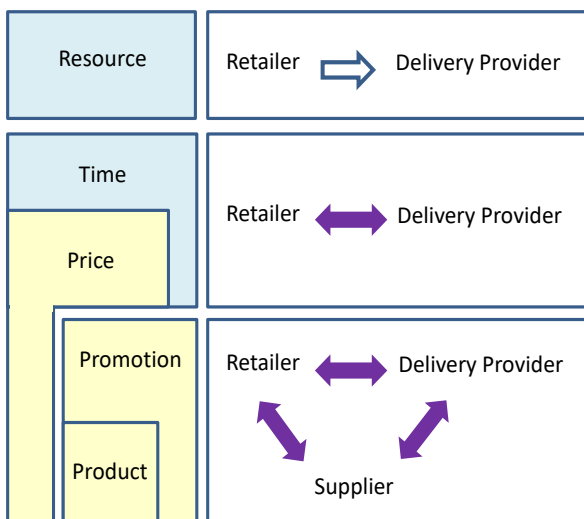


Figure 3. Relational partnership model based on marketing and delivery aspects

TABLE IV. EXAMPLES OF RELATIONAL PARTNERSHIP MODEL

	Retailer	Delivery Provider	Supplier
Resource	- Increase affiliation with delivery providers - Introduce robots that deliver goods to customers	-Increase labor forces	
Time and Price	-Manage delivery schedule with delivery providers collaboratively	-Set available time before a customer starts shopping -Charge extra payment to deliver on time -Discount delivery fee at less popular time	
Price and Promotion	-Offer promotional goods with affordable delivery	-Free delivery depends on the suitable delivery schedule -Free delivery depends on the delivery schedule	-Work for promotion together with them
Price, Promotion And Product	-Increase to receive ordering and offer promotional price	-Rise loading capacity in a truck to deliver at once	-Develop suitable products for deliver

First, the one-way relationship between retailers and delivery providers is one in which retailers ask providers to deliver goods. There are no issues provided the goods are delivered on time.

Next is the interactive relationship between retailers and delivery providers through utilizing time management and marketing about delivery fees. It aims for both to collaborate to operate smooth delivery.

The third is the multi-way relationship among retailers, delivery providers and suppliers such as manufactures by utilizing price, product, and promotion of the 4Ps of marketing. It aims for all of them to earn profit by controlling these marketing elements as well as operating smooth delivery. Concrete examples are shown at Table IV.

At the first stage, there is a one-way relationship between retailers and delivery providers. At the second stage, the relationship is still constructed between retailers and delivery providers, but they can manage time and charge delivery fees to control delivery schedules.

At the third and fourth stages, manufacturers are also included in the relational model. Price and Promotion are considered at the former stage and these plus Product are considered at the latter stage.

In the relationship among retailers, delivery providers, and manufacturers, manufacturers develop suitable products for delivery, for instance, suitably packaged goods to be stocked and delivered, which makes it easier for delivery providers to deliver as they can increase



loading capacity in a truck. As for retailers, receiving online orders from customers will be increased as shoppers can receive purchased goods anytime they would like without any stress. Retailers also offer promotional campaigns with manufacturers that develop delivery-friendly products to sell more because it is good for retailers and delivery providers to sell these goods rather than other non-delivery-friendly products.

The “last mile” in the distribution system is important for all the actors including manufacturers, particularly whenever the demand for online shopping increases. Challenges may arise in the second stage due to increasing the number of online shoppers. The fourth stage model will continue to develop, and the actors will earn profit. It is important to build technical online networks as well as develop a collaborative marketing model.

## VI. CONCLUSION

Based on cases in the U.S., this study argues that larger retailers’ online networks must be strengthened and that concentration ratios in the sector have increased and physical retail networks have been enhanced. It considers the types of networks by examining how larger retailers’ networks have been built. It also finds that marketing and investment strategies are affected by the types of online networks.

Next, it compares these cases with those in Japan. The types of networks are similar in Japan and the U.S. The types of online networks could then be generalized. It implies the effect of marketing strategy is different by network type and a retailer operating its own online network has a more advantageous position compared to a retailer committing its online operation to a third-party online platform company. Retailers affiliating with platform companies are required to manage their marketing strategies to compete with others.

It also examines the characteristic issue of operating online grocery stores in Japan compared with in the U.S. It is clear that delivery is a major issue. Retailers build technological distribution centers to reduce time of picking goods and of preparing for delivery, but it is still an issue as there are delivery labor shortages. It is a challenge for delivery providers to resolve delivery issues by themselves. This study then presents the suitable delivery strategy based on marketing concepts on the online networks.

There is still a relative lack of academic research on online marketing strategy based on the networks or logistics. This study discusses the retailers’ online marketing based on the networks and analyzes the issue of operating online stores and reviews the methods based

on marketing. It is clear that marketing is required before a network is developed rather than after.

Further empirical research on other cases in other countries will be required to make a generalized model of suitable networks depending on situations and conditions.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## AUTHOR CONTRIBUTIONS

Norie Yokoi conducted the research, wrote the paper, and approved the final version of the manuscript.

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