

# The Impact of e-Commerce on the Japanese Raw Fish Supply Chain

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## ABSTRACT

In this study, we conducted primary research to determine the state of e-commerce in Japan. Two groups of internet retailers selling fish were identified. The first group, small e-commerce companies, failed to meet consumer expectations because of channel conflict, logistics issues, and lack of resources. The second group, established retailers with e-commerce operations, had few incentives to increase Internet sales. Although Japanese consumers, businesses, and the government expected huge benefits from e-commerce, no evidence exists to support this supposition.

## 1. INTRODUCTION

During the late 1990's, Japanese consumers, businesses, and the government expected huge benefits from business-to-consumer (B2C) electronic commerce. Consumers expected lower prices. Japanese and foreign businesses expected a lower barrier to entry into the world's second largest consumer market. Finally, the Japanese government expected an economic revival and source of future growth.

In 2001, the Ministry of Economy, Trade and Industry, or METI,<sup>a</sup> forecasted that within five years the amount of Japanese B2C e-commerce would become sixteen times larger.<sup>8</sup> The Japanese business press supported this forecast, citing various socio-demographic changes that favored Internet shopping. Everyone agreed that e-commerce would spur productivity, create new markets and reduce energy consumption.

To understand the validity of these projections, we conducted primary research to determine the current state of Japanese e-commerce. All data was gathered during a trip to Japan in January 2001. We chose the fresh fish supply chain to assess the effectiveness of e-commerce. Fresh fish was an important aspect of the Japanese diet and its distribution system one of the most complicated in Japan.

The study is divided into five parts; 1) literature review, 2) description of methodology, 3) presentation of the results, 4) discussion, and 5) conclusion.

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<sup>a</sup> METI is the new name for MITI (Ministry of International Trade and Industry) as of January 2001.

## 2.0 LITERATURE REVIEW

We found few references written in English about Japanese e-commerce. However, a visit to Japan uncovered many local publications on the topic. This literature consistently projected significant growth opportunities for Japanese e-commerce, citing the greater number of Internet users, an aging population, and the increasing number of working women. According to a study conducted by the Japanese government, the e-commerce market would dramatically expand from Yen 824 billion (\$6.6 billion)<sup>b</sup> in 2000 to Yen 13.3 trillion (\$106 billion) in 2005.<sup>8</sup> Several publications warned of problems, but criticism was limited to issues such as *fraud* and *security* of personal information.

This sharply contrasted with the situation in the United States and Europe, where researchers investigated e-commerce from many different perspectives. Naming only a few recent works, researchers addressed important topics including *cross-industrial perspectives*,<sup>14</sup> *pricing* and *brand name*,<sup>4</sup> *security*,<sup>1</sup> *agents*,<sup>2</sup> and *legal issues*.<sup>15</sup> The greater range of analysis allowed for multifaceted discussion of Western e-commerce opportunities and a great deal of entrepreneurial activity. In contrast, e-commerce in Japan took a different direction.

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<sup>b</sup> \$ = Yen 125, unless otherwise stated.

## 2.1 An Overview of the Japanese Retail Supply Chain

Prior to investigating e-commerce in the fish supply chain, we conducted a review of the Japanese distribution system. Historically, the Japanese retail channel has been characterized by complex distribution structures and practice.<sup>16</sup> These conclusions were largely based on international comparisons of retail outlet and wholesaler concentration. For example, in 1999 Japan had twice as many retail outlets and wholesalers per capita as compared with the United States (Table 2-1).

Table 2-1 Complexity of Distribution System: Comparison Between the United States and Japan

	Japan	United States
Number of retail establishments (in thousands)	1,407	1,526
Number of retail establishments per 10,000 population	111	54
Number of wholesale establishments (in thousands)	426	495
Number of wholesalers per 10,000 population	34	17
W/R	1	2

Source: MITI: Ministry of International Trade and Industries, *Preliminary Report on 1999 Census of Commerce* (Tokyo: MITI, 1999); Japan Statistics Bureau, *Jinko Suikei Geppo* (Tokyo: Japan Statistics Bureau, 2001); MITI: Ministry of International Trade and Industry, *Vision for the distribution system toward the 21st century* (Tokyo: Tsuushoo Sangyoo Choosakai, 1995); US Census of Retail Trade, 1992; US Census of Wholesale Trade, 1992.

Traditionally, this characteristic of multiple-layered wholesalers and numerous retail outlets traced to Japan's historical, social, demographic, and geographic makeup. Japanese homes were small with limited space for refrigerators and food storage. Congested traffic conditions encouraged walking to nearby "mom-and-pop" shops rather than driving to larger shopping centers. In addition, the importance of fresh food, primarily fresh fish and vegetables, to the Japanese diet required frequent shopping trips to nearby stores.<sup>7</sup>

From a business perspective, small stores that required minimal capital investment were a major source of employment for retired persons, who historically received fewer social security benefits than in other industrialized countries.<sup>18</sup> Retirees frequently lived on the premises and relied on family help to keep operating costs low. The large number of small stores also served as a cushion against unemployment during economic downturns, such the oil crises of the 1970s.<sup>7</sup>

Another important factor that helped to preserve small retail outlets was the Large-Scale Store Law. Introduced in 1974, the law required new stores with floor space of more than 500 square meters, to submit operational plans for approval by the government. Approval required unanimous agreement by a committee of local existing stores. This drastically slowed new construction. In 1979, it took applicants an average of 43 months to gain clearance, with approved floor space reduced by 14% as compared to the original request.<sup>18</sup>

## 2.2 History of the Retail and Wholesale Industries

Traditional retail outlets faced substantial difficulties in 1960s and 70s when new types of retailers such as Daiei began to meet consumer demands for discount pricing, mass merchandizing, and one-stop shopping by automobile. Because of these innovations, traditional small retailers could not compete.<sup>20</sup> The number of retail outlets declined from 1.7 million establishments in 1982 to 1.4 million in 1999, an 18% reduction.

Coincident with this change, sales per store increased for large retailers (1.5% of total stores accounting for 35% of national retail sales).<sup>9</sup> With increased free cash flow, national chains invested in facilities and technologies for higher efficiency.<sup>17</sup> Contrary to general perception, Japanese retailers proved more efficient as compared to United States retailers (Table 2-2).

Table 2-2 Japan-US Retailers Comparison

	Japan	United States	Japan/US
Revenue per employee (\$/person)	222,128	133,989	1.66
Revenue per shop floor (\$/sq.ft)	657	294	2.23
Inventory turns	25.04	10.40	2.41
Revenue per tangible asset	5.50	3.97	1.39

Source: MITI: Ministry of International Trade and Industry, *Vision for the distribution system toward the 21st century* (Tokyo: Tsuushoo Sangyoo Choosakai, 1995), 203.  
Exchange rate: \$=Yen 188 (Prevalent purchase power parity)

However, since 1990, large retailers have experienced consistent decreases in sales. As a result, the largest retail store chain went, effectively, bankrupt. Although retailers achieved high efficiency at the individual store level, a great deal of waste remained in the supply chain (Table 2-3).

Table 2-3 Causes of Inefficiencies Observed in the Supply Chain

Stores	<ul style="list-style-type: none"> <li>• High labor cost</li> <li>• Excessive number of stores</li> <li>• Large-Scale Store Law protects small retailers</li> </ul>
Trade practices	<ul style="list-style-type: none"> <li>• Supplier selection <ul style="list-style-type: none"> <li>○ Supplier decision based on services provided rather than price</li> <li>○ Excessive long-term, exclusive supplier-buyer relationships</li> <li>○ Non-transparent practices, such as verbal contracts, preventing supplier competition and new entrants</li> <li>○ Lack of total cost recognition</li> </ul> </li> <li>• Complicated practices such as rebates and post-mortem pricing agreements</li> </ul>
Logistics	<ul style="list-style-type: none"> <li>• Lack of total logistics cost recognition due to excessively intimate relationship between carriers and shippers</li> <li>• Inefficient palletization, containerization, and warehouse space utilization</li> <li>• Insufficient infrastructure due to limited and expensive land</li> <li>• Regulations that limit location of distribution centers</li> </ul>
Information Systems	<ul style="list-style-type: none"> <li>• Insufficient standardization</li> <li>• Regulation (requirement for record keeping in paper form)</li> </ul>
Human Resources	<ul style="list-style-type: none"> <li>• Lack of skilled labor</li> </ul>
Additional Regulations	<ul style="list-style-type: none"> <li>• Regulations related to store construction and location</li> <li>• Import (lengthy customs clearance, excessive safety and specification standards, quota etc)</li> <li>• Additional local regulations and inconsistency among these regulations, which prevent national stores from efficient standardization</li> </ul>

Source: MITI: Ministry of International Trade and Industry, *Vision for the distribution system toward the 21st century* (Tokyo: Tsuushoo Sangyoo Choosakai, 1995), 25-59.

The wholesale industry did not experience as much change as did retailers. For example, the number of wholesalers actually increased by 7.7% between 1982 and 1991 (peaking at 462,000 establishments). However, by 1999 the number of wholesalers decreased by 7.8% to 426 thousand.<sup>9</sup> Many retailers began to undercut one or more wholesale layers in order to reduce cost. A 1998 survey showed that 30% of retailers



decreased the number of wholesale layers supplying stores because of price pressure from consumers.<sup>10</sup>

E-commerce, threatened to add further disruptions to the relationships between wholesalers and retailers. The opportunity existed for wholesalers to by-pass retailers and market directly to the end consumer using the Internet. However, Japanese consumers' inclination to use e-commerce proved surprisingly low. In a 1999 survey, over half of respondents expressed a lack of interest in using the Internet for shopping (table 2-7). In addition, 35% who had used e-commerce for shopping indicated that they would not use it again.

Table 2-7 e-Commerce experience and future usage  
 "Have you ever used e-commerce? Will you use it in the future?"

	Will use	Will not use	Total
Have used	7.0%	4.0%	11.0%
Have not used	28.5%	49.4%	77.9%
Total	35.5%	<b>53.4%</b>	88.9%
No idea	1.8%		
Don't know what it is	9.4%		

n=2,099

Source: Tokyo Metropolitan Government, *Shoohi seikatsu ni kansuru yoron choosa* (Tokyo: Tokyo Metropolitan Government, 1999).

## 2.6 The Fresh Fish Supply Chain

The complexity of fish distribution system was attributed to several supply chain necessities. Because maintaining freshness was the highest priority, the chain evolved to include many participants, to transact quickly, and to share the risks of spoilage. It was necessary to link many (60,000)

supply points to many (50,000) retailers.<sup>4</sup> An example of the historical fresh fish supply chain is shown on the left side of Figure 2-1.

This supply chain has changed drastically since the 1950s, as large retailers emerged to serve the increasing population in urban areas. Progress in transportation and food preservation methods became important factors that enabled economies of scale and mass retailing.<sup>17</sup> Wholesalers, mostly small and medium sized enterprises (SMEs), lost control over the market channel as large retailers and trading firms gained power.<sup>4</sup>

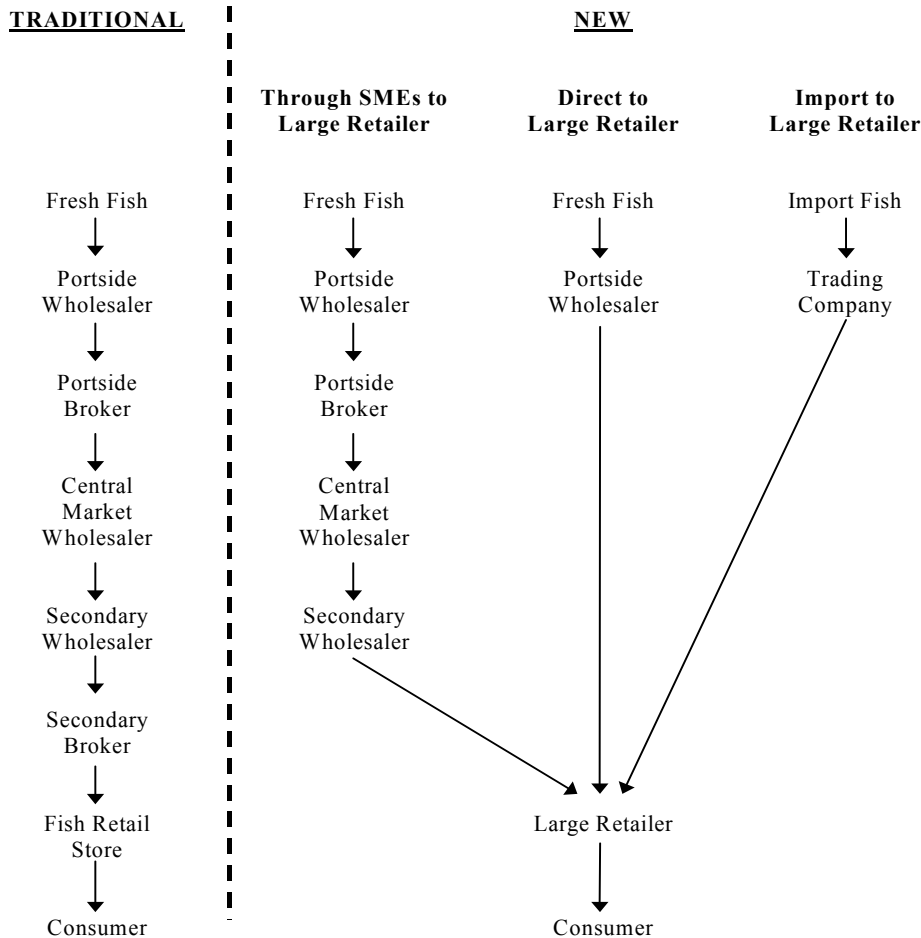
In the 1980s, consumer behavior also began to change. Increased disposable income and the strong Japanese currency served to increase total fresh fish demand, and the amount of imported fish.<sup>4</sup> In 1999, imports accounted for as much as 40% of the market.<sup>6</sup> Because of changing lifestyles, demography, and household structure, consumers came to prefer small packaged and ready-to-cook fish products.

This forced changes to distribution practices. Leadership shifted from the central market wholesaler, the undisputed channel captain, to large chain stores that could meet new consumer demands for price and convenience. In addition, trading companies integrated import channels and increased their influence in fish distribution.<sup>4</sup>

Consequently, as shown in the right half in Figure 2-1, new supply chains developed for fresh fish. The influence of central wholesale

markets decreased. During this time, large chain stores commanded over 50% market share. The share for small fish retailers, dropped to 15%.<sup>6</sup>

Figure 2-1 Traditional Channel for Small Retailers and New Channels for Large Retailers (fresh tuna)



Source: N. Dholakia and H. Hayashida, "Structural issues in an import-intensive channel: The case of fresh fish distribution in Japan", in M. R. Czinkota and M. Kotabe, *Japanese Distribution* (Chicago: Probus Publishing, 1993), 300; and MAFF: Ministry of Agriculture, Forestry, and Fishery, *Gyogyoo no dookoo ni kansuru nenji hookoku* (Tokyo: MAFF, 1999).

Even with this restructuring, the industry remained inefficient. For example, the price of fish typically rose by 70% as it passed through the

supply chain from producers to households. This was the highest markup among all the grocery items, including fresh vegetables (50%).<sup>6</sup>

In conclusion, we found little specific research, published in Japan or the United States, to understand Japanese e-commerce in its unique context. Taking a next step, we sought to gain greater insight from interview research on the nature of Japanese e-commerce.

### **3. METHODOLOGY**

In this study, a SME was defined as a firm with less than Yen 50 million (\$400,000) net worth or fewer than 50 employees.<sup>c</sup> For large retailers sales ranged from Yen 114 billion (\$0.9 billion) to Yen 774 billion (\$6.2 billion).

As summarized in APPENDIX A, we conducted telephone interviews in Japanese with various e-commerce firms to gather relevant information. Interviewees from large organizations were managers in public relations. Those from SMEs ranged from staff members to the CEO. Typically, in medium sized companies, one or two staff members were assigned to Internet sales, while in smaller sized companies, CEO or other executives were in charge.

Because of the non-random nature of the sample, we make no claim that the results of this survey are statistically un-biased. However,

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<sup>c</sup> A definition under the Japanese Small and Medium Sized Company Law.

the large majority responses to particular questions provided the authors with confidence that our conclusions are valid.

## **4. RESULTS**

### **4.1 SME e-Commerce Operations**

SMEs were found to be the most active in terms of e-commerce. We identified more than 500 small online fish stores, mostly in “web malls” that provided various technical and commercial administrative support for a fee starting at Yen 50,000 (\$400) per month. Fees depended on the amount of items listed. Rakuten was identified as the largest web mall in Japan. We interviewed 20 individual businesses from this mall. Raw data obtained from the interviews appears in APPENDIX B. We summarized the data into a sample profile (Table B-1).

All the interviewees responded that they initiated e-commerce because it was easy and inexpensive (Table B-2). Most firms already had PCs, Internet access, and the minimum ability to manage web sites. Typical start-up costs were Yen 10 million (\$80,000) or less. The second largest motivation was growth. While some already had direct access to consumers through mail and telephone sales, many SMEs launched e-commerce to reach select individual and small trade customers such as restaurants. The third motivation was to counter threats, either from current customers (retail chain stores) or competitors (such as trading firms importing fish from abroad).

These efforts resulted in negligible incremental sales. In a typical situation, we found that e-commerce contributed \$80,000 in annual revenue after one to three years of operation. This was less than 1% of total company revenue. Most firms neither assigned full-time employees to manage e-commerce, nor employed specialists such as web designers or online marketing experts.

Compared to typical grocery supermarkets, SME e-commerce firms offered limited variety; most products were either high-end (tuna, crab, lobster, shrimp, and snapper) or preserved fish (Table B-3). The average price was substantially higher than products sold at stores.

All of the SME e-commerce firms outsourced delivery, using one of three major third party logistics (3PL) providers. Most of the 3PL firms charged Yen 1,000 (\$8) for a delivery in the Tokyo area. Typical lead-time from pick-up to delivery was two days.

#### 4.2 Large e-Commerce Operations

National retail chain stores launched online sales in 2000, compared to 1997 when web malls began operations. Unfortunately, our interviews with these large firms resulted in little information, predominantly because of the short sales history of e-commerce and limited disclosure. We obtained supplementary information through visits to company web sites (Table B-4).

Of the ten largest grocery retailers in Japan, six were engaged in fresh fish e-commerce. Five of the six retailers used private fleets to cover a limited delivery area. For example, Ito Yokado allowed only residents in Edogawa ward (Tokyo) which had a population of 633,000, to purchase online. Products were delivered directly from existing stores. Maruetsu was the only national retailer that used 3PL companies for countrywide deliveries.

For the six major retailers, we investigated products and pricing offered for online purchase (Table B-5). The variety of fish products was less than a typical store. However, total variety, which included grocery and other convenience items, was almost as large as a typical store.

#### 4.3 Service Providers in e-Commerce Industry

While most online stores operated by large retailers were autonomous in terms of web operation and delivery, all the SMEs used services provided by web mall providers, such as Rakuten (Table B-6). More than 5,000 online stores operated in this web mall. Although revenue and profit were dramatically increasing, the amount of turnover was great. More than half the online stores operated at a loss.<sup>13</sup>

Other businesses that provided services to e-commerce included logistics companies, such as Yamato Transport (Table B-7). Yamato, an innovator in door-to-door parcel delivery services, held one third of this segment, or 828 billion parcel shipments per year. Both shipments and

profits were increasing, partly due to e-commerce. We found that this market was dominated by four major organizations; Yamato, Sagawa, Seino and Japan Post Office. Pricing and services offered by these four firms were nearly identical.

## **5. DISCUSSION**

At the beginning this research, we anticipated observing a group of entrepreneurial companies attempting to revolutionize the complex Japanese distribution system. However, what we observed was quite the opposite; players were small to medium enterprises previously engaged in fish production and wholesaling. The motivation was not toward an entrepreneurial opportunity but rather toward an attempt to survive increasing pressure from large retail customers and huge trading companies. Unfortunately, these attempts were unsuccessful, yielding negligible sales and profit. We attributed this lack of effectiveness to three issues:

### Channel Conflict

The most challenging hurdle for the SMEs in pursuing e-commerce was channel conflict with their primary “offline” customers, large retail chain stores.

Large retailers had dramatically changed fish distribution. During the 1990s, many retailers streamlined the wholesaler base through disintermediation. As a result, thousands of wholesalers disappeared.



Remaining wholesalers increased reliance on large retailers. This harsh business environment influenced many SMEs engaged in fish wholesaling to consider new market channels like e-commerce. However, SMEs voluntarily limited the scope of e-commerce operations in terms of products and pricing to maintain good relationships with primary customers, the large retailers. This drastically limited the effectiveness of e-commerce.

### Logistics Challenge

For most SMEs, direct transaction with an individual consumer was a new business activity. Nationwide distribution of fresh fish was impossible without expensive third party, door-to-door delivery service. This logistics issue posed several operational constraints:

- Delivery cost

Ranging from Yen 500 to 1,000 (\$4 – \$8), the delivery cost was prohibitively high for a casual fresh fish order that typically amounted to Yen 1,000 (\$8) or less.

- Delivery method and lead-time

Although logistics companies provided refrigerated delivery with a lead-time of two days, occasional product spoilage did exist. As a result, most SMEs observed very few consumers purchasing fresh fish during the summer months. Long lead-times also affected availability of consumers at time of delivery. Multiple SMEs commented that the most time-consuming part of e-commerce was

communicating with consumers concerning delivery date and time. In spite of coordination efforts, absence at pre-agreed delivery appointments happened, often causing product spoilage. Because it was often not clear exactly when products spoiled, most SMEs gave full refunds to customers. Nearly all the SMEs commented that it was impossible to seek remedy from logistics providers.

### Lack of resources

There were overwhelming differences between SMEs and large store chains in terms of financial and human resources devoted to e-commerce. In addition to these quantitative factors, quality of human resources at the large retail chains was generally much higher. As an additional observation, both corporate and employee motivations towards e-commerce were relatively low. We attribute this attitude to the fundamental e-commerce objective of defending against competitive threats rather than the desire to exploit new opportunities.

Large retailers were not constrained by the same issues that limited the e-commerce potential for SMEs. They commanded strong power in the market channel with huge resources in terms of capital, employees, existing store facilities and transportation infrastructure.

Nonetheless, large retailers were not sufficiently motivated to make a shift to e-commerce. They observed cannibalization of existing store business because of Internet sales. The initial motivation for e-commerce was to expand marketing area (households with limited access to stores)

and customer segments (such as senior citizens). However, a large percentage of online shoppers were from the current customer base (homemakers and working women between 25 - 40). For this reason, large retailers remained active in e-commerce but had little incentive to expand operations.

## 6. CONCLUSION

In summary, we identified two major groups of Japanese companies involved in fish e-commerce (Table 6-1).

**Table 6-1 Summary of Observations and Analysis**

Players	Observation and analysis
Traditional, small to medium fish-related businesses	<ul style="list-style-type: none"> <li>• Motivated by competitive pressure</li> <li>• Hard to meet consumer requirements               <ul style="list-style-type: none"> <li>○ Channel conflict with large retailers</li> <li>○ Logistics challenge</li> <li>○ Lack of resources to innovate</li> </ul> </li> </ul>
Large retailers	<ul style="list-style-type: none"> <li>• Better position with fewer constraints</li> <li>• Less motivation; focus on existing stores</li> <li>• e-Commerce intended to fill some niche not served by stores</li> <li>• e-Commerce causes cannibalization of existing business</li> </ul>
New entrants	<ul style="list-style-type: none"> <li>• Few, due to remaining barriers/inefficiencies in the distribution system</li> </ul>

We further concluded that the future prospects for Japanese e-commerce are limited for several reasons. First, many SMEs cannot afford to continue e-commerce operations. The majority have not found a way to be profitable in online sales. Second, large retailers impeded development of e-commerce to avoid cannibalizing existing retail store business. They indirectly pressed SME wholesalers to refrain from direct sales to

consumers using e-commerce. Third, most importantly, consumers showed a weak response to purchasing goods online. For these reasons, e-commerce will develop slowly.

Despite sweeping wholesale reorganization led by retailers, the wholesalers still tried to maintain relationships with retailers and voluntarily avoided conflict with them by offering non-competing products for e-commerce. In fact, during our interviews with an executive vice president of a wholesaler, he stated, “supermarket chains do not object to our direct transaction with consumers, but they occasionally ask us how our e-commerce business was going, and we assured them that we have no intention to compete against them.” He interpreted “questions” from large retailers as a “warning” and considered this when choosing products to be offered online.<sup>d</sup>

We also observed that retailers had retained a long-term set of wholesalers as market channel partners. Only the severe economic conditions experienced during the 1990s motivated retailers to reorganize the wholesale structure. Even large, efficient retailers had tried to maintain relationships with specific wholesalers for a long time.

Nakane pointed an important aspect of Japanese society that explained these two observations.<sup>12</sup>

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<sup>d</sup> In general, Japanese might interpret a question as an expression of discomfort. We did not find specific research that explained this issue, however, this is attributed to Japanese culture and traditional practices.

“The widely observed *Japanese ethic* is that, once firmly established, a relationship should be maintained even despite economic loss. Such loss, however, may be offset in the long run, since the rigid relationship develops a high credit relationship benefiting mutual interests.”

We concluded that, although the Japanese ethic had not changed, there was a great pressure to break firmly established social relationships. The economic pressure for social change will influence the rate of e-commerce adoption in practice.

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## APPENDIX A

### Objective data and collection method

Objective Data	Primary collection method
Identify e-tailers	Web search through search engines and major web shopping malls
Products, price, and other sales conditions	Web visits
e-tailers' corporate information	Telephone interviews
e-tailers' industrial position	Telephone interviews
e-tailers' motivation	Telephone interviews
Sales	Telephone interviews
Staffing	Telephone interviews
Consumer characteristics	Telephone interviews with sellers

### Questions for telephone interviews with e-tailers

Corporate profile	The number of employees for the company Primary business Primary customers
Aboute-commerce	Why did you start e-commerce offerings? (up to two reasons) What is your online sales amount per month? How much do online sales share in total corporate sales? How many employees were assigned to online offerings? Is it a full-time assignment? Are there any specialists recruited for this purpose?
Products	What are the two primary products promoted online?

## APPENDIX B

### Data gathered on SME e-Commerce Operations

	Company	A	B	C	D	E
Corporate	Employees	40	9	36	6	80
	Primary Business	Local fish wholesale market	Fish import, processing and wholesale	Fish wholesale	Fish retail	Fish wholesale
	Major customers	Large retailers, Central wholesalers	Large retailers	Large retailers, restaurants, hotels	Consumers	Large retailers
e-Commerce	Motivation	Growth exploration through new channel	Growth exploration through new channel	Being disintermediated	Growth exploration through new channel	Extension from mail order
	Annual Sales (million Yen)	36	12	100	0.5	1
	EC/Total Sales	1%	1%	1-5%	10-40%	Below 1%
	Personnel assigned	1.5	0.5	0.5	0.5	2
	Specialist?	No	No	No	No	No
	Product Variety	17	3	4	5	6
	Primary Products	Crab, Shrimp	Crab	Tuna	Crab and ball fish	Crab
	Target Order Amount	5,000	3,500	6,000	4,500	n/a
	Delivery Firm	Yamato	Nittsu	Yamato	Yamato	Yamato
	Delivery Charge	1,050	0	840	500	800

	Company	F	G	H	I	J
Corporate	Employees	25	120	100	n/a	30
	Primary Business	Dried fish production	Processed fish wholesale	Fishery and processing	Seaport wholesale	Tuna wholesale
	Major customers	Wholesalers, large retailers	Large retailers, specialty shops	Wholesalers, large retailers	Wholesale markets	Sushi shop, large retailers
e-Commerce	Motivation	Competitors starting e-commerce	Extention from telephone sales	Extention from mail order	Extention from mail order	Growth exploration through new channel
	Annual Sales (million Yen)	10	2	n/a	12	2
	EC/Total Sales	Below 1%	Below 1%	Below 1%	n/a	Below 1%
	Personnel assigned	0.5	0.5	0.5	n/a	0.5
	Specialist?	No	No	No	No	No
	Product Variety	8	3	15	25	12
	Primary Products	Dried fish	Dried fish	Tuna	Tuna	Tuna
	Target Order Amount	3,000	5,000	5,000	7,500	10,000
	Delivery Firm	Yamato	Yamato	Yamato	Yamato	Sagawa
	Delivery Charge	740	600	0	1,000	580



Data gathered from interviews conducted in Japanese (continued).

	Company	K	L	M	N	O
Corporate	Employees	25	12	370	3	20
	Primary Business	Dried fish production	Wholesale	Wholesale	Production (boat owner)	Retail
	Major customers	Large retailers and dept. stores	Large retailers	Hotel, large retailers, restaurants	Wholesalers	Consumers
e-Commerce	Motivation	n/a	Growth exploration through new channel	Competition from trading companies (imported products)	Price pressure from wholesalers	Growth exploration through new channel
	Annual Sales (million Yen)	2	3	7	n/a	n/a
	EC/Total Sales	Below 1%	Below 1%	Below 1%	n/a	Below 1%
	Personnel assigned	0.5	0.5	1.5	1	0.5
	Specialist?	No	No	Yes	No	No
	Product Variety	3	33	7	37	30
	Primary Products	Dried fish	Snapper	Lobster	Various	Snapper
	Target Order Amount	4,000	7,500	5,000	3,000	5,500
	Delivery Firm	Yamato	Nittsu	Yamato	Nittsu	Yamato
	Delivery Charge	750	500	760	588	700

	Company	P	Q	R	S	T
Corporate	Employees	n/a	25	n/a	20	Less than 10
	Primary Business	Other fish related	Tuna wholesale, processing	Boat owner	Processing, packaging, wholesale of fish	Secondary wholesale
	Major customers	n/a	Large retailers, wholesalers	Wholesalers	Large retailers, wholesalers	Large retailers
e-Commerce	Motivation	n/a	Growth exploration through new channel	Profit squeezed by large retailers	Competition from trading companies (imported products)	n/a
	Annual Sales (million Yen)	n/a	1.5	n/a	1	n/a
	EC/Total Sales	n/a	Below 1%	n/a	Below 1%	n/a
	Personnel assigned	n/a	0.5	n/a	1.5	n/a
	Specialist?	n/a	No	n/a	Yes	n/a
	Product Variety	2	3	10	11	21
	Primary Products	Tuna	Tuna	Dried fish	Dried fish	Crab
	Target Order Amount	n/a	3,500	n/a	4,500	n/a
	Delivery Firm	Yamato	Nittsu	Yamato	Yamato	Yamato
	Delivery Charge	950	0	1,155	1000	950

**Table B-1 General Profile of SME e-commerce operations**

Number of employees	More than 500	0%
	100-500	15%
	10-99	50%
	Less than 10	20%
	Undisclosed	15%
Primary Business	Fish wholesale	60%
	Fishery	25%
	Fish retail	10%
	Other fish related	5%
Primary customers	Large retailers	70%
	Other types of retailers (restaurants etc)	40%
	Wholesalers	20%
	Consumers	10%

(n=20)

**Table B-2 General Operational Aspects of SME e-tailers**

Motivation (Two primary)	Easy and inexpensive marketing method	100%
	Sales growth through direct access to consumers	35%
	Threat from primary customers and competitors	30%
	Extension from mail/telephone order	20%
	Undisclosed	15%
Annual online sales	More than Yen 100 million (\$ 800,000)	5%
	Yen 10-100 million	20%
	Less than Yen 10 million (\$ 80,000)	45%
	Undisclosed	30%
Online Sales / Total Sales	More than 5%	5%
	1-5%	15%
	Less than 1%	55%
	Undisclosed	25%
Staffing (Full-time = 1.0, Part-time =0.5)	2.0	5%
	1.5	15%
	1.0	5%
	0.5	55%
	Undisclosed	20%
	Any specialist recruited	12%

(n=20)

Table B-3 Products, Prices, and Deliveries offered by SME e-commerce

SME	e-tailers		Typical stores
Product variety	20-40	25%	Typical fish variety = 100
(# of distinct fish products)	10-19	25%	
	Less than 10	50%	
Primary product (Up to two types)	Tuna	30%	Typical tuna package price = 500-2,000
	Crab, lobster, shrimp	30%	
	Dried fish	25%	
	Snapper	10%	
	Others	5%	
Package price in Yen (Tuna: n=111)	10,000-156,000 (max)	14%	Typical grocery purchase = 2,000-3,000
	5,000-9,999	25%	
	2,000-4,999	31%	
	1,000-1,999	14%	
	500-999	11%	
	3 (min)-499	5%	
Typical order size (Yen)	8,000-	5%	Typical grocery purchase = 2,000-3,000
	6,000-7,999	15%	
	4,000-5,999	40%	
	2,000-3,999	20%	
	Undisclosed	20%	
Delivery	Insource	0%	Typical grocery purchase = 2,000-3,000
	Outsource	100%	
	- Yamato Logistics	75%	
	- Nippon Express	20%	
	- Sagawa Express	5%	
Delivery to Tokyo area (Yen)	1,000-1,500	20%	Typical grocery purchase = 2,000-3,000
	500-999	65%	
	1-499	0%	
	Free	10%	

(n=20, except for price n=111)

**Table B-4 e-Commerce by Ten Largest Grocery Retailers**

Companies	Daiei <sup>c</sup>	Jusco	Ito Yokado	Seiyu	Uny <sup>f</sup>	Mycal	Life	Maruetsu	Coop Kobe	Izumiya
Grocery sales (billion Yen)	774	635	605	398	386	338	278	273	220	184
Paid-in capital (billion Yen)	248	325	694	73	154	229	38	80	n/a	101
e-Commerce	Yes	No	Yes	Yes	Yes	Yes	No	Yes (Rakuten)	Yes	Yes
Fresh grocery	No	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Variety			Thousands	5,000	4,000	Thousands		300		Thousands
Fish products			23	50	13	24		50		30
Geographic limitation			Limited	Limited	Limited	Limited				Limited

**Table B-5 Large e-commerce Operations**

Companies	Ito Yokado	Seiyu	Mycal	Maruetsu	Izumiya	Uny	Typical store <sup>g</sup>
Product	Thousands	3,000	Thousands	300	Thousands	3,000	5,000
Fish product variety	23	50	24	50	30	13	100
Price range	150-1,000	200-800	100-800	3,000-20,000	300-1,000	200-1,500	100-2,000
Delivery method	Own fleet	3rd party (Cocodesu)	Own fleet	3rd party (Yamato)	Own fleet	Own fleet	
Delivery timing	Earliest possible, 2 hours window	Same or next day, 2 hours window <sup>h</sup>	Same or next day, 2 hours window	Two day	Same or next day, 2 hours window	Same or next day, 2 hours window	
Delivery charge	500	500	300	0 (included)	300	300	

<sup>c</sup> Daiei had e-commerce operation through a subsidiary, @Lawson, which did not offer fresh fish.

<sup>f</sup> Uny operates through its affiliate company.

<sup>g</sup> Information from retail stores and visit to stores.

**Table B-6 Profile of Rakuten**

(Financials in million yens)	December 1999	December 2000
Sales	604	3,089
Operating profit	228	970
Net profit	107	528
Paid-in capital	446	16,383
Number of employees	46	165

Source: Rakuten web site: <http://www.rakuten.co.jp/info/ir/>

**Table B-7 Profile of Yamato Transport**

Financials in million yens	March 1999	March 2000
Sales	767,655	812,354
Operating profit	39,641	43,879
Net profit	17,275	20,417
Net worth	101,571	108,477
Number of employees	n/a	89,981

Source: Yamato Transport web site:

<http://www.kuronekoyamato.co.jp/kaisya/end/end7.html>

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<sup>h</sup> Seiyu had a strategic agreement with the third party logistics provider, Cocodesu.