

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

Edmund W. Schuster  
and  
Kazunari Watanabe

# 1. Introduction

- **Purpose** – conduct primary research to determine the state of e-Commerce in Japan
- **Expectation** – observation of a group of innovative companies attempting to revolutionize the complex Japanese distribution system
- **Method** – examination of the fresh fish supply chain, interviews conducted in Japanese
- **Result** – observed structural issues leading to unanticipated lack of e-Commerce penetration in the Japanese market



# 1. Introduction (continued)

- E-Commerce Projections (Japanese Government)
  - Increase from \$6.6 billion in 2000 to \$106 billion in 2005
  - 16 times larger in five years
- Benefits
  - Japanese *customers* expected lower prices
  - Japanese and foreign *business* expect lower barrier of entry
  - Japanese *government* expected economic revival and source of future growth

## 2. Literature Review

- Few references written in English about Japanese e-Commerce
- Large number of publications written in Japanese
- Japanese focus on *fraud* and *security*
- Large contrast with American situation
  - Cross-industrial perspectives
  - Pricing and brand name
  - Security
  - Agents
  - Legal issues



# 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	<b>1</b>	<b>2</b>

---

# Why so Many Stores and Wholesalers?

- Small homes with limited space for refrigerated food storage (Japan is about the size of California with 127 million people, much of the country is not utilized).
- Congested traffic conditions encouraged walking to stores
- Importance of fresh food, especially fruits and vegetables – frequent shopping trips
- Relatively high land prices
- Large-Scale Store Law (1974)



# Changes in the Retail Supply Chain (1982-1999)

- The number of retail outlets declined 18%
- The number of wholesalers declined 7.8%
- Sales per store increased (1.5% of total stores accounting for 35% of National retail sales)
- Large retailers were gaining power, and began to reduce the number of wholesalers
- E-Commerce offered opportunity for Wholesalers to do direct marketing to consumers.

# 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

---



# Analysis of Japan-US Comparison

- Individual Japanese retailers appear to be very efficient (1995)
- Assume \$=Yen 188 (prevalent purchase power parity)
- Exchange rate in 1995 quoted as \$=Yen 95
- Great deal of waste in the supply chain
  - Complicated rebates and post-mortem pricing agreements.
  - Emphasis on relationships

# 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%
<hr/>			
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).

Japanese consumers viewed the use of e-Commerce to order merchandise as “entertainment.”

The process was “fun” to do once.

Not a strong view of **using** the technology as a productive tool for daily shopping.



# The Fresh Fish Supply Chain

- Freshness is top priority
  - Many participants, transact quickly, share risk of spoilage
  - Use of Auto-ID technology to monitor the temperature of tuna during transport to port
- Strengthening Yen, more imports, shift in channel captain to retailers (imports take 40% share)
- Influence of central market wholesaler decreased
- Supply chain remains inefficient (70% increase for fish compared to 50% for fresh vegetables)



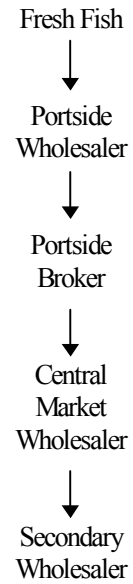
# Traditional Channel for Small Retailers and New Channels for Large Retailers (fresh tuna)

## TRADITIONAL

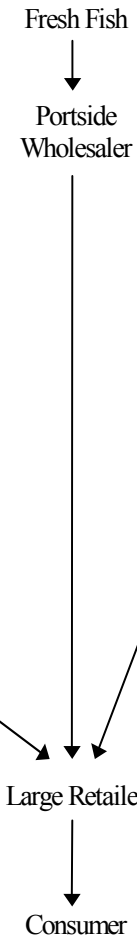


## NEW

### Through SMEs to Large Retailer



### Direct to Large Retailer



### Import to Large Retailer



## 3.0 Methodology

- Two groups
  - Small and medium enterprises (SME)
  - Large retailers
- Interview research, all done in Japanese
- Sample size n=20 for SME
- Large Retailers - limited interview information disclosed
  - Short sales history (since 2000)
  - Reluctance to speak openly

## 4. Results

- **SME's** were the most active
  - Low cost to set up operations in “web malls”
  - Opportunity for sales growth
  - Counter threats from customers (retail chains) and large trading companies)
- Typical Outcome since 1997
  - Limited variety offered online
  - Sales = 1% of total company revenue
  - Outsourced logistics

## 4. Results (continued)

- **Large retailers**
  - 6 of the 10 largest retailers had e-Commerce programs
  - Use of private fleets to cover a limited delivery area
  - Less variety of fish products than typical retail store



## 4. Results (continued)

- **Service Providers**

- Yamato, Sagawa, Seino and Japan Post Office
- Cost was about \$8 per delivery
- Pricing identical in the market
- Lead-time was two days
- High population density did not appear to reduce delivery costs

## 5.0 Discussion

No evidence of **entrepreneurial** activity to revolutionize the complex Japanese distribution system.

E-Commerce activity concentrated among existing **SME wholesalers**.

Attempts at e-Commerce were largely **unsuccessful** in generating new revenue and profit for SME's.



## 5. Discussion (continued)

- **Channel Conflict**

- SME customers (the retailers) posed largest challenge
- Disintermediation of the wholesaler base created a harsh business environment
- SME voluntarily limited the scope of e-Commerce in terms of products and pricing
- Maintain good relationships with the large retailers

## 5.0 Discussion (continued)

- **Logistics Challenge**
  - Wholesale direct transaction with customer a new activity
  - Delivery cost high for fresh food.
  - Spoilage problems caused higher costs
  - Hard to coordinate delivery date with customer

# 5.0 Discussion (continued)

- **Lack of Resources**
  - low motivation for e-Commerce
  - objective to defend against competitive threats rather than desire to exploit new opportunities
  - Large retailers noticed cannibalization of sales
  - Little initial evidence that large retailers were reaching new markets such as
    - Households with limited access to stores
    - New customer segments such as senior citizens
    - “social logistics” increased costs



# Summary of Observations and Analysis

<b>Players</b>	<b>Observation and analysis</b>
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>

# The Comparative Logistics Project

## [www.ed-w.info](http://www.ed-w.info)

- Research regional logistics systems
- Provide teaching materials, including case studies, discussion questions and Power Presentations
- Develop techniques of comparative analysis
- WSJ – **“Wal-Mart's Foray Into Japan Spurs A Retail Upheaval”**  
Sept. 19, 2003
- Participants in the project:
  - Edmund W. Schuster
  - Kazunari Watanabe
  - Ping Wang
  - Kuang Ler

