E-COMMERCE DEVELOPMENT IN JAPAN

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Abstract
This paper discusses the unique approach that e-commerce in Japan has followed to adapt to the Japanese culture. New forms of B2C e-commerce development in Japan are emerging mainly via mobile devices and convenience stores. Future research possibilities on e-commerce in Japan are discussed as well.

INTRODUCTION

E-Commerce is by definition a global application of information and communication technologies. The web site for a sales transaction can be seen anywhere in the world. If you look outside of the United States, although most of the early developments were made in the U.S., many countries can be identified as interesting topic of discussion for e-commerce. Japan is one of such countries. The Internet-related industry is considered one of the fastest growing segments in Japan. After English and Chinese, Japanese is the third most used language on the Internet (by number of users, as of Sep. 30, 2005; *Internet World Stats*, 2005). With the Japanese purchasing power, they should play an important role in this arena.

However, the e-commerce in Japan has lagged behind the United States. Various trials and errors have been made since its beginning. Development varies from industry to industry and depends on consumer purchasing behavior to a particular good or service. Based on the data collected before the dot-com crash (1999), a research identified differences between Japan and the U.S. on several web site characteristics (Sakaguchi, et al., 2001). Among other differences, it noted that U.S. web sites were in a well-advanced position in transaction processing functions.

It has been more than five years since the above-mentioned research was conducted. The purpose of this research is to examine the current situation of Japanese e-commerce and see if any interesting developments have been made in this area. First, the paper will go over the background data; then developments in communication media, namely mobile devices will be discussed. The paper will next examine the delivery characteristics of Japanese market in e-commerce transactions. The paper concludes with future direction of the research.

BACKGROUND

B2C E-Commerce in Japan

Japanese E2C e-commerce market was ¥336 billion (about $3 billion) in 1999, which was a 400% increase over the previous year (JETRO, 2000). One of the main reasons often associated with this slow growth in Japanese e-commerce was the high cost of using the Internet and a low number of hosts by comparison to the United States which provides inexpensive access and a larger number of hosts. Another set of factors for the late development of B2C in Japan are slow penetration of PCs and credit cards in Japanese households which limits the number of potential online shoppers. This market figure later grew to ¥5.64 trillion (about $50 billion), or 87 times of the figure in 1998 (METI, et al., 2005).

Government Support for E-Commerce in Japan

Japan is still lagging behind in e-commerce trades compared to the United States. To close the gap, the Japanese government took a major leap forward by passing IT Basic Bill (Morris, 2004). This eased regulations on the Internet, set up rules to expand electronic commerce and made Internet access more affordable. The newly enacted law calls for an "e-government," utilizing IT for online national and local government services, available around the clock. Now, e-commerce became one of the priority policies in Japan. Civil organizations and governmental agencies are promoting construction of e-commerce infrastructure. In addition, the Japanese government is proposing campaigns on basic IT strategies to further advance the IT facilities. Efforts include building an ultra high-speed Internet network

with constant Internet access, instituting rules on electronic commerce, realizing an e-government and developing high quality human resources.
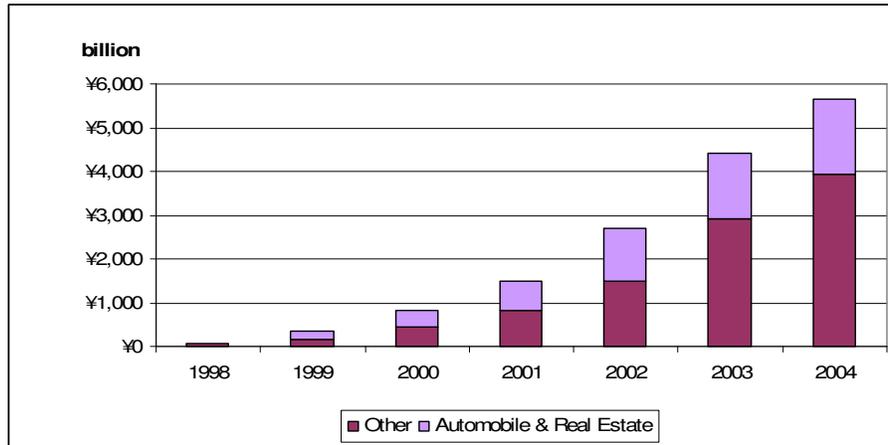

Figure 1: E2C e-Commerce Market in Japan (Source: METI, et al., *Survey on Actual Condition and Market Size of Electronic Commerce for 2004*)

The government is actively promoting the use of information technology through the creation of a broadband network infrastructure, e-commerce promotion and the protection of private information through secure networks. During 1996 to 2000, the government allocated about US$1 billion for 200 projects to boost the Japanese e-commerce market (Tachiki, 2000). In 2000, a new division known as ECOM (Electronic Commerce Promotion Council of Japan) was established, whose main objective is to develop policy for all areas of ecommerce. ECOM has 300 corporate members and it mainly represents the e-commerce industries (ECOM, 2005). With the recent increase in security and privacy issues, the Japanese government has stepped up its effort in safeguarding consumer protection and security.

NEW FORMS OF E-COMMERCE DEVELOPMENT IN JAPAN

Mobile devices and M-Commerce

Compared to the users in the United States, incredibly high number of the Japanese users access Internet through their mobile devices. There are over 20 million people online in Japan, of which 4 million (or 20%) people online use their mobile phones (JETRO, 2000).

This makes Japan the current world's leader in mobile commerce (m-commerce) (Spohr & van Efferink, 2000). The market continues to expand rapidly. The emergence of i-mode service from NTT DoCoMo and the multimedia services from 3G systems have made m-commerce a major success in Japan. The fastest and most popular segment of the telecom industry, "i-mode", which is a digital packet based mobile phone with Internet access, is a popular alternative from regular personal computer access. "i-mode" was introduced in February 1999 by DoCoMo (Morimoto, 2000) and enabled customers to do online shopping, banking, email and other web browsing functions. Due to the products success, DoCoMo incorporated "i-mode" as a standard feature in all its mobile phones.

Japan's m-commerce has been greatly stimulated by the availability of wireless data transmission technology. The always 'on connection' create a convenient and reasonable charge for data sent and receive rather than the amount of time spent online. Japan has low wired home connection due to the limited housing sizes and high cost of living standards. With Japanese spending numerous hours on public transportation, mobile communication devices such as cellular phones and pagers are very popular. NTT Mobile Communications Network, Japan's leading mobile phone operator, and its competitors, Nippon IDO Tsushin and DDI Cellular Group, offer mobile data services ranging from home banking and news headlines to restaurant guides and weather reports. With their tiny cellular handsets, users can also send/receive e-mail messages and develop their own home pages. Small electronic devices and gadgets, ranging from car navigation systems to palm-held devices to toys, like Sony's PSP or Nintendo's DS, are so popular in Japan. DoCoMo has leveraged this trend to promote m-commerce through i-mode.

Entertainment is the biggest application in the m-commerce market. Digital contents for mobile phones, such as ringers, ringer music tones, and screen pictures have been a major commodity in m-commerce in Japan. In November

2004, a new service "Music Tone Full" was introduced, and already pushing up the figures for this segment (METI, et al., 2005). Music and interactive games are gaining popularity due to the advantage of ubiquity and flexibility of availability for customer usage during their idle time. For example, HMV Japan's music sale through i-mode is nearly 10% of its total sale (Spohr & van Efferink, 2000). Another market demand exists in the reservation of goods and services especially travel industry and event management (tickets reservation), with approximately 8.5% and 30%, respectively, of the transaction ordered/placed by mobile Internet devices (Dedrick & Kraemer, 2000). The high usage of mobile commerce in these two segments can be attributed to reservations and applications are basic transactions in these segments including non-Internet transactions, rendering them inherently compatible with telephone transactions. Another reason is the highly urgent nature of this business makes it suitable for transactions by mobile terminals, which are always carried by the customers.

Figure 2: News of the World Trade Center and Pentagon attacks came within the hour to those with J-Phones and the Station service (source: NTT DoCoMo, 2005: http://www.japon.net/imode/imodenews.shtml).

New Platform for E2C Commerce -- Convenience Stores

In Japan the convenience stores (known as *konbini*) plays a major role in the e-commerce field. These ubiquitous convenience stores set up kiosks on which customers can shop online and then receive the merchandise at the store. One of the more popular is known as 7dream.com, established by 7-Eleven Japan. It is the biggest convenience store chains, owned by *Ito Yokado Co Ltd*. Seven – Eleven, have 8000 stores. Each averages around 960 customers per day or 53.76 million customers per week (Ogata, 1997). Since 2000, Seven - Eleven have established joint ventures with companies to provide services such as travel, music, mobile telephones, computers, peripherals, software, books, flowers, information on auto dealers and driving schools, entertainment, and some miscellaneous services.

Customers purchase goods from home or in store multimedia kiosk. For example, the 3-million customers of Japan's largest virtual mole, *Rakuten Ichiba,* can pick up and pay for purchases at Seven-Eleven stores (Smagalla, 2004). Customers are also able to download music from the Internet into mini-discs. Payment and delivery for goods and services can be made at the stores (using cash or credit), or over the web using a credit cards. This in-store payment option attracts Japanese consumers whose main hesitation is a reluctance to use credit cards online. Convenience stores are also able to capitalize on delivery problems. With many consumers working long hours, rather than have their goods delivered to an empty house or waiting at home for them all day, consumers can have purchases delivered to the nearest Seven – Eleven store for pick up at a time of their choosing.

Japanese subscribers mainly used the Internet for information collection, communication (e -mail), and shopping (Dedrick & Kraemer, 2000). Online purchase of goods did not seem to be a priority and can be partly explained by the problems associated with electronic commerce such as difficulty of ascertaining the quality of goods sold, expensive communication, privacy and payment security, and insufficient trust in web merchants. Another main barriers e-commerce acceptance was the low usage rate of credit cards. Japan is very much a cash society and to do transaction via credit card online is not considered safe. Many Japanese consumers prefer to transact primarily by postal and bank transfers (Sakaguchi, et al., 2001). Seven-Eleven also began selling books on the Internet in collaboration with Softbank. For this service, consumers have at least three payment/delivery options: payment and book delivery at Seven-Eleven outlets, door-to-door delivery service utilizing a C.O.D. or online credit care payment. The majority of the customer opted for the first option (Kawabe, 1994). Some of the more successful B2C companies are as follows:

- *Yamato Transport*: A delivery company with its own online mall where delivery people can take payment from customers for any store in the mall.
- *Yamadaya*: Online site selling Japanese noodles with affiliation with noodle vendors. The website carries attractive photos of its products and offers various choices of payment methods such as credit card, cash card, C.O.D. or bank transfer.
- *Rakuten Ichiba*: One of the most successful online mall with over 4000 online shops. In addition, there is an auction site which charges a commission on sales.

Other New Notable Developments

Profusion of new venture companies with the latest IT knowledge and skilled workers, who bring unique ideas, clearly indicates that e-commerce market in Japan is on the rise. One such company is Digital Garage, Inc., which pioneered e-commerce market space growth in the entertainment sector. Digital Garage was indeed the first Japanese company to provide a catalog database server to check inventory while shopping online. The website, known as WebNation, is an Internet shop where consumers can buy CDs, videos, and DVDs online while accessing the latest news about the artists and industry. Its success proved that it is possible to create a Web version of customer relationship management (CRM). WebNation is successful due to an understanding of the Japanese customer preferences. Users can choose between various methods of payment and distribution. In addition to paying by COD or credit card, users can also opt to pay and receive at any "Lawson" convenience store in the country. Companies can also arrange to have WebNation services connected to a mobile device.

A more rational e-commerce business model has emerged with a strong Japanese flavor from the hype and hopes. In this model, e-tailing is just one of several channels to reach customers. It is combined with various support facilities. Although niche players will survive in e-commerce as they do on main streets, the research suggests economies of scope are critical for success. Start-up e-tailers with narrow (vertical) markets generally have not been successful. But even established players moving into e-tailing are not well positioned to develop economies of scope when the "bricks" part of their business is narrowly specialized. In contrast, a study of SEJ, Lawson, and FamilyMart show the Japanese CVS e-tailing model is based on expanding scope that includes customer traffic and expanded parts of the value chain. Perhaps this is inherent in being in a "convenience" business, but what they are accomplishing when forming a "*e-retsu*" offers lessons applicable to all e-commerce retailers.

CONCLUSION

E-commerce in Japan is taking a different form from the United States. B2C e-commerce is conducted increasingly via wireless devices and less via PCs. It relies less on credit card payment and more on mechanisms such as billing by wireless service providers, and cash payment to convenience stores and delivery companies. This is in line with the results of the study 5 years ago (Sakaguchi, et al., 2001), in which it was suggested that Japan was trailing the U.S. in B2C e-commence due to the e-commerce practices (mainly developed in the U.S.) did not match the culture and business practices in Japan. Now they are responding in their own ways.

The growth potential for Japanese B2C e-commerce is vast. It was estimated that in 2004 Internet transactions should surpass ¥5.6 trillion (about $50 billion: METI, et al., 2005). Indeed, the foundations of this expansion are already evident. The number of subscribers to NTT DoCoMo's Internet-capable cellular phones (i-mode) rose from zero in mid-1999 to 7 million a year later, and over 45 million in 2005 (NTT DoCoMo, 2005). A few video game companies are designing programs that operate upon the Internet facilities. Convenience stores are transforming into outlets where consumers can order, receive, and authorize payments through automated teller machines (ATMs) on goods.

Japan seems to have discovered the Internet's potential as an e-commerce platform relatively late but it has restructured what it has adapted to fit into the Japanese culture. However, not much of those phenomena, for example, the emergence of *e-retsu*, have been studied. M-commerce is also getting popularity in neighboring Asian countries and Northern Europe. There are possibilities of future research in these area.

References
Available upon request from the third author.