

Situation of Electronic Commerce in Japan

and Discussion about Developments to Come

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This article aims at summarizing the size of the Japanese market of electronic commerce (e-commerce) and characterizing its major components. This requires separate analysis of transactions entirely between firms (B2B or 'business to business') and transactions between companies and individuals (B2C or 'business to consumer'). Due to the emphasis on the overwhelming size of the B2B market over the latter, we propose to focus our article on B2C, as it is aimed at readers belonging to the Musashi Institute of Technology – Yokohama Campus & Yokohama City 'shimin kouza' (市民講座) Programme.

We particularly propose (Chapter 1) to interpret market data produced by multiple information sources¹, to identify patterns of growth for e-commerce: role of internet technologies and consumption behavior patterns among other things. We then make several suggestions for the implementation of successful e-commerce strategies by firms (Chapter 2). Finally, in Chapter 3, we shall place the development of Japanese e-commerce in the broader context of the retailing industry strategies and more specifically the recent moves of major convenience store chains into internet portals and e-commerce.

キーワード : electronic commerce, B2B, B2C, retail business, distribution, international comparison

1 Interpreting Statistics on E-commerce and Consumer Behavioral Patterns

1.1 Comparison of the market sizes of B2C and B2B

According to the METI², the B2C market represented in year 2000 only 3.8% of the 220 billion yen B2B market, and is expected to grow to a 4.4 % of the 340 billion yen B2B market in 2006. In other words, while e-commerce is often – improperly – associated with B2C only, we should remember that transactions between firms are and will remain, the major market for electronic commerce.

This preliminary remark being done, the electronically-supported transactions represent an increasing

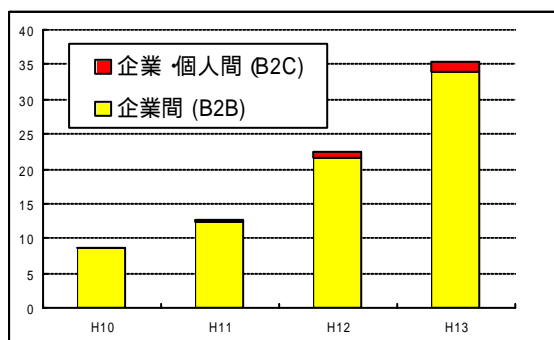


Exhibit 1 : E.Commerce 市場の規模 (日本) - 兆円
(E-commerce: Market scale [Japan]-1 trillion yen)

share of economic transactions : from less than 0.5% in 2001, their share (B2B+B2C) should, according to METI, reach 6% in 2006. Although significant, this share remains low by international standards (more than 16% in South Korea, 12% in the USA and 9% in France³).

1.2 Development of B2C market

1.2.1 International comparisons

According to Forrester Research, the global B2C market in 2000 is concentrated in the USA (75% of the total), Japan having a less than 5% share. In 2004, the dominance of the USA remains (50%), and while the size of the Japanese market grows, it will be challenged by South Korea, experiencing a spectacular growth.

An international comparison of internet infrastructures provides a hint of the reasons why countries like South Korea experience such drastic progressions : using the cost of utilizing t

he internet and the number of internet hosts on a national level, the OECD⁴ benchmarked in 2000 the major developed countries. Japan features a high cost of using the internet and a low number of hosts by comparison to the population, while the USA offer cheap access and a large number of hosts.

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1.2.2 The major economic segments of B2C

According to the METI⁵, the main applications of e-commerce are -- by order of importance and for the year 2000 -- 1) real estate transactions, 2) automobiles, 3) PC-related goods, 4) travel-related services.

In terms of 'penetration' (i.e. the share of e-commerce as a percentage of all the transactions), the PC-related goods are ranked first in 2002 (34% of penetration), followed by automobiles (17.5%), cultural goods such as books and CDs (15.9%), travel-related goods (15.6%) and real-estate goods with a very low 3.2%.

Let us now develop several recent statistics regarding the behavior of internet and B2C users.

1.2.3 Users' behavior towards the internet and effect on B2C growth.

In 2000, Japanese subscribers were using the internet in order to: 1) collect information over the world wide web, 2) communicate (e-mail) and, only in 3rd position, to purchase items⁶.

Frequency and duration of internet use. According to a 2000 survey, 84% of subscribers use the internet everyday. During the 1997-2001 period, their usage behavior seems to have matured towards more regularity and, simultaneously, more efficiency: while the frequency becomes almost daily, the consolidated connection time diminishes, as a consequence of high usage costs. When the ADSL technology becomes the standard, we will probably observe a reversal towards longer durations.

Technology used for internet access. As of July 2002, an overall 57.7% of users had chosen broadband technologies (CATV, ADSL)⁷. The diffusion of broadband internet seems

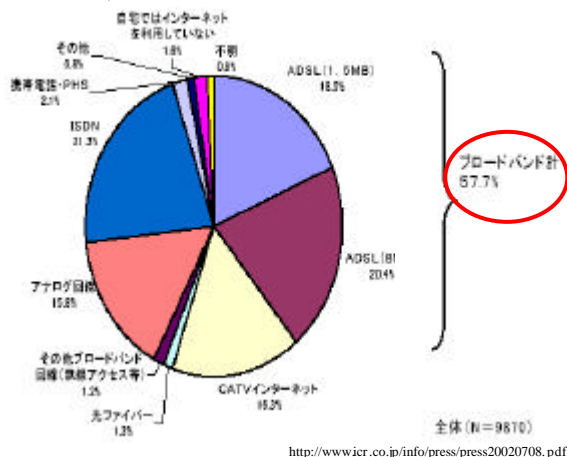


Exhibit 2 : インターネットアクセス方法 (2002年7月)

therefore critical to the development of B2C e-commerce: we can identify 3 types of positive effects : 1) broadband technology allowing the delivery of new services (digital contents) ; 2) spectacular improvement in user interfaces for existing services ; 3) intensified use of B2C by existing internet users⁸.

How to accelerate generalization of broadband technology : the case of South Korea.

Thanks to voluntarist policy, the Korean government achieved in the period from March 2000 to April 2002 an increase in the subscribers' number from a mere 500,000 to 8.5 million, that is virtually 50% of Korean households⁹. This could be achieved by a focus on a cheap technology - ADSL - and by the implementation of a two-phase policy: 1) In the first phase, in order to bring down the price of internet subscriptions, the government is to allocate a budget for subsidizing private companies willing to provide a reliable and cheap ADSL service. 2) In the second phase, the emphasis is laid on liberalizing the telecommunications industry in order to limit predatory behavior of the incumbent telecommunications operator.

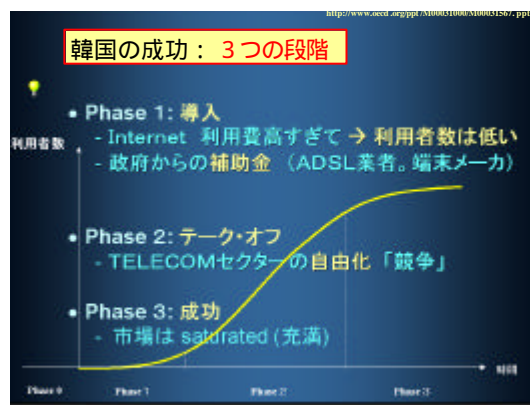


Exhibit 3 : broadband internet に関して , 韓国の政策

1.2.4 Users' behavior towards B2C.

When questioned about how they mostly intend to use B2C services, Japanese users tended to favor: 1) information services (travel reservation services, banking, and entertainment, among other things) and 2) auction services. The purchase of material goods does not seem to be a priority¹⁰. This may be at least partly explained by the problems associated with electronic commerce : 1) difficulty of ascertaining the quality of goods sold; 2) extremely high cost of communication; 3) troublesome privacy issues and payment security; and 4) insufficient trust in web merchants. It therefore comes as no surprise that the most popular sites in Japan are

brands with well established names such as *All Nippon Airways*, *Kinokuniya Bookshop* or *Brooks Brothers*¹¹.

Overall, among people with buying experience on the internet, 80% of users had made one purchase per year, and more than 50% made at least four purchases/year in 2001¹². Thirty percent of them bought 50,000 yen worth of goods/year, fashion goods being more popular among female users, computer goods the most purchased by males. CDs, DVDs and travel-related goods are evenly popular with women and men. These B2C users see in this new purchasing channel several merits, the most significant being: time saving, 24/7 operating hours, and the possibility of comparing characteristics of goods and prices¹³.

1.3 The size and potential of B2C over mobile telephones.

More than 50% of the terminals allowing internet access in Japan are mobile telephones (Ezweb, J-sky, I Mode). However, only 20% of these web-enabled telephones are actually used to access the internet¹⁴, e-mail remaining, even over traditional voice communication, the most popular service featured by Japanese mobile telephones. Although most terminals offer reliable payment functionalities¹⁵, mobile e-commerce represented in 2001 a small 8% of total B2C market in Japan¹⁶, mostly for entertainment services (more than 70% of the market), and a monthly bill of less than 1000 yen (for more than 55% of users).

As a conclusion, let us say that mobile ecommerce seems to be by nature limited to very specific types of merchandize (paid information, games, melodies), and to a certain extent to travel services, securities and computer

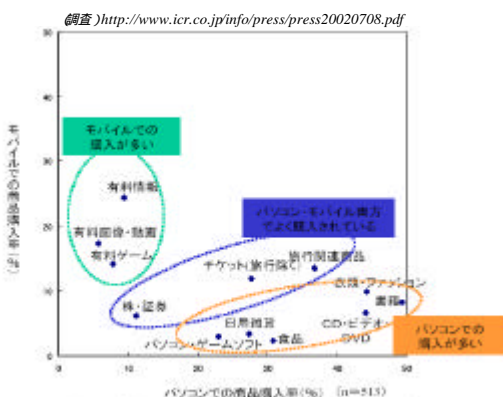


Exhibit 4 : 商品セグメントによる端末選択肢 (Choice of terminals by merchandize types)

goods¹⁷.

2 Suggestions for successful e-commerce strategies

We would like to outline four majors strategies for success.

2.1 Diversification of revenue sources

Besides revenue originating directly from the sale of goods over the internet, sales information is, among others, a safe way to secure diversified revenue sources¹⁸. A famous example is of course Yahoo, which managed to multiply revenue sources as follows : 1) fee collection associated with auction service on the Yahoo portal, 2) fee-based premium mail services (extended memory...), and even 3) a membership fee system associated with its jobs services (Hotjobs).

2.2 Coping with fears and apprehensions of would-be customers

I used the case of *kimonoichiba*¹⁹, a B2C site specializing in second-hand high-grade kimonos, in order to introduce a very innovative way of providing critical information about the quality of the goods sold over the internet. Besides a traditional *auktion* portal allowing the user to browse through pictures and descriptions of all the goods proposed, it features four virtual shops with one manager in charge of each of them : his/her mobile telephone number is published, allowing users to consult him/her about the quality of one specific good, and particularly to obtain his/her advice about the 'fair' price of a given good, "Is the bidding price in the auction still below the value of the good, is it worth offering a higher price or should we rather give up?"

This 'hybrid' web + human interface is particularly well adapted to the nature of good and to the auction system



Exhibit 5 : “キモノ市場”競売のHP事例 (Example of HP market featuring kimono auction)

altogether : the fairly high value of each transaction allows the ecommerce company to cover the high overhead cost of this human interface.

2.3 Automating and outsourcing of non-core activities

Ideally, B2C firm should be capable of outsourcing everything besides 1) the design and maintenance of its web portal/ home page and 2) all communication with its customers (also called CRM or customer relations management) as these are critical for maintaining and even improving the quality of service. The concept of CRM is in its principal very close to processes of continuous improvement (or kaizen / 改善), well-known in the industry. Conversely, inventory management, warehouse ownership and operation, goods shipping and returned goods management should be as much as possible outsourced, as they require enormous investment and are time consuming. We should note however that the world famous Amazon B2C venture insists on the contrary in owning and operating goods inventory directly, in order to provide the customer with short and reliable delivery lead times.

2.4 Strategic CRM (Customer relation management)

The process of electronic customer relation management consists of (1) transforming prospective - or potential - customers into real customers, and among the latter, (2) to filter out non productive customers. The first process mostly consists, after having advertised one's B2C service, to establish a relationship with prospective customers (in other words an exchange of electronic mail and links to web pages, promotion vouchers allowing a discount for the first on-line purchase...).

The critical condition is to economically manage a multiple-phase interaction with prospective customers and induce them to purchase on-line... Practically, CRM consists of email reminders, limited-period promotions, etc. The second phase of CRM, which consist of developing valuable customers while sorting out unproductive ones requires development of customer profiles, based on past purchases and payment history, and goods returns with a view to estimating the clients profitability and adjusting promotion strategy. It also consists of better knowing the tastes of the customer in order to define targeted communication strategy. For example, amazon.com allows the user to request an email to be sent to him when a

売り上げ高を増やすための方式 :

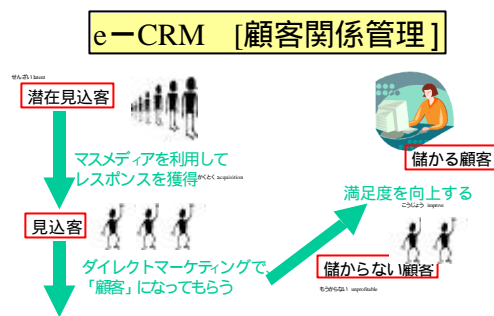


Exhibit 6 : B2C ビジネスモデルのためのCRMプロセス
「顧客関係管理」

(CRM process for B2C business model: "customer relations management")

book to be published soon becomes available for order. Of course, such methods may be limited by privacy protection regulations.

3 Recent evolutions in the Japanese retail industry

The extraordinary originality of the Japanese market towards B2C e-commerce is how it relates to the omnipresent and extremely innovative convenience store chains. The major chains - Seven-Eleven, Lawson, Family Mart achieved popular successes thanks to a very plain business model : a range of a few hundreds articles available at any hour in small stores conveniently located.

Over the last two years, B2C e-commerce has become critical for competitive advantage in this extremely competitive industry. The strategic vision of the most advanced actors (Seven-Eleven and Lawson) seems to be to use B2C portals as a complementary way of proposing merchandise to the public -- the convenience store remains the key relay for delivering goods ordered online and even for allowing customers reluctant to send their credit card information over the internet, to complete the payment in cash at the store's register. In doing so, convenience store chains expect the range of products and services offered to increase without limit. Similarly, these chains are progressively introducing inside their stores so-called 'multi-media terminals', allowing customers to purchase goods and services not actually available in the store.

| | 米国 | 日本 |
|----------------------------|-------------------------------|--|
| 都市形 ライフ スタイル | Sprawl スプロール (郊外部は拡大していく) | コンパクトシティ (人口密度高い) |
| 買物方法 | 郊外へ 自動車で、 週末に | 歩いて (10分以下) 毎日 |
| e-commerce のための インフラ | ゼロから作るべき 「流通システム 決済端 末」 | 存在する : コンビニ  |

Exhibit 7 : 米国と日本 : e-commerce の違い

The emergence of such 'virtual stores' (web portal and multi media terminals) in parallel to the 'real stores' and, of course, the extremely efficient logistics systems implemented by the industry leaders, together with the much acclaimed door-to-door parcels delivery services, (takuhaibin²⁰) confirms that the "convenience store around the corner" is the most exciting thing presently taking place in the Japanese distribution industry.

4 Conclusion

By international standards, B2C electronic commerce is not so well developed in Japan. Among the main reasons are technological and economic impediments, as well as cultural particularities (reluctance to pay by credit). However, the technology gap is now in the process of being filled, soon allowing Japanese customers to browse cheaply and progressively become familiar with this new form of shopping. At the end of the day, besides 'brick and mortar' firms holding well-known brand names (JTB, ANA, JR, Kinokuniya...), the convenience store chains are very likely to become the most



Exhibit 8 : マルチメディア端末 (MM端末)
(Multi media terminal [MM Terminal])

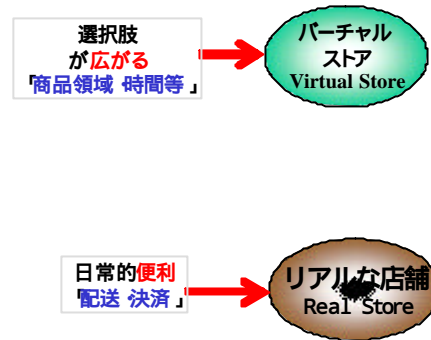


Exhibit 9 : e-commerce に関して、コンビニ業界の戦略 (Strategies of convenience store industries concerning E-commerce)

influential actors of B2C in Japan in the years to come, challenging more traditional businesses such as banking, and even securities brokerages.

¹ Ministry of Economy, Trade and Industry, Postal Services Agency, etc...

² http://www.ecom.jp/ecom_e/report/survey/3.29.02.B1.0ECmarket.pdf

³ according to Forrester Research.

⁴ <http://www.oecd.org/pdf/M00029000/M00029437.pdf>

⁵ <http://www.meti.go.jp/kohosys/press/0002379/0/020218ec.pdf>

⁶ http://www.commerce.or.jp/result/min21/3_1.html

⁷ <http://www.icr.co.jp/info/press/press20020708.pdf>

⁸ http://www.ecom.jp/ecom_e/report/survey/2000.pdf

⁹ <http://www.oecd.org/ppt/M00031000/M00031567.ppt>

¹⁰ http://www.commerce.or.jp/result/min21/3_1.html

¹¹ <http://www.iptp.go.jp/research/monthly/2002/162-h14.03/162-all.pdf>

¹² <http://www.commerce.or.jp/result/min21/1.html#1>

¹³ Nikkei Ryuutsuu Shinbun January 1st, 2000.

¹⁴ <http://www.iptp.go.jp/research/monthly/2002/162-h14.03/162-all.pdf>

¹⁵ <http://www.oecd.org/pdf/M00002000/M00002806.pdf>

¹⁶ <http://www.iptp.go.jp/research/monthly/2002/162-h14.03/162-all.pdf>

¹⁷ <http://www.icr.co.jp/info/press/press20020708.pdf>

¹⁸ http://www.ecom.jp/ecom_e/latest/ecomjournal_no4/ecomjournal_e04.pdf

¹⁹ www.kimonoichiba.com

²⁰ The major takuhaibin companies are Yamato, Nippon Express Pelican and Sagawa Express