

# Strategic Use of Electronic Commerce by SMEs: Some Lessons from Cases in Japanese Distribution Channel and Research Framework

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## Abstract

Nowadays, e-commerce and its applicability are in controversy throughout the world. Firms in all sizes are facing with various barriers in adopting e-commerce. For case of small and medium sized enterprises (SMEs), there are much more obstacles than large companies have face with, therefore, the model that is fit and effective for SMEs may quite different from large enterprises' ones. This paper takes up case of Japanese distribution channels to illustrate the major impact of information technology on SMEs, finds out the role of e-commerce within SMEs distribution systems in Japanese economy, and then, points out some major barriers that prevent SMEs from entering into e-commerce. Finally, we propose an analytical framework for e-commerce penetration into SMEs as a guideline of future research in this area.

## 1. Introduction

Recent years have seen a dramatic increase in the role of information technology (IT) over every business activity and business process. Particularly, quick and efficient commercial transactions can be accomplished by exploiting the state-of-the-art internet-based IT, through evolutionary improvements of the present ways of trading in traditional markets and the multitude of internet-based online auctions in emergent electronic marketplaces. Many companies now are in enthusiasm to capitalize on new possibilities offered by IT development and enter the novel business activity, namely electronic commerce or e-commerce.

While the potential of e-commerce is quite clear and luring companies, however, the number of companies, especially small and medium sized enterprises (SMEs), which have gained actual benefit from business-to-consumer (B2C) marketplaces, is rather limited even in the new economy. Recent empirical surveys held by various governments or consulting organizations throughout the world pointed out a number of different reasons such as lack of e-commerce awareness and IT expertise in general,

poor business and IT infrastructure, lack of people with right skills, difficulty getting reliable advices and assistance, no clear business models for e-commerce, lack of finance resource for investment in people and technology, and lack of interest in business growth and development. The barriers that prevent SMEs from entering into e-commerce are also quite different from country to country. Whereas SMEs in the US are in fear of the cultural barriers, international trade barriers, interoperability with complementary companies, and so on, the most frequently considered barriers for SMEs in Japan are privacy and security. The difference among countries is clearly based on the distinctions of market, business characteristics, customer behavior, the limitation of payment system, and incomplete public key infrastructure. Above all, the reason may initiatively stem from the fact that e-commerce now predominantly focuses on the local market, not having a perspective open enough for the global market.

Observations of the real status of e-commerce in different countries, therefore, brought out a universal requirement of finding out the way to improve effectiveness of e-commerce marketing channel. Recently, five business models of e-commerce can be often used to represent various ways of matching trading parties and organizing commercial transactions. They are business-to-business (B2B), business-to-customer (B2C), customer-to-customer (C2C), business-to-government (B2G), and intra-business (organizational) e-commerce of large corporations. In order to do business via internet, a firm may use website, email, electronic data interchange (EDI), or other internet tools to gain a higher profit and other benefits. Earlier researches talked much about the potential of e-commerce and its general impact on business activities, but they did not mention to an effective model for SMEs. Because SMEs face much more obstacles than large companies do, the model that is fit and effective for SMEs may quite different from ones for large enterprises. This study, in order to construct a reasonable business model of e-commerce for SMEs, will focus on clarify the

characteristics of SMEs in new digitalized economy, referring to some cases in Japan.

## **2. Existing e-Commerce Distribution Channel Models**

With two powerful tools that may help to increase the sales of companies, namely website and email, companies now can select internet as an alternative channel to provide directly products and services to either industrial customers or end-users. The new form of distribution channel through internet is considered as e-marketplace. The name of new distribution channel helps us clearly imagine the initiative activities in e-commerce that are not so different from transactions recurring in the conventional market.

From literature review, there are a number of categories of the so-called e-marketplace. [1] refers to the firm that operates an e-marketplace as the “intermediary”, which may be a market participant (i.e. buyer or seller), an independent third party or a multiform consortium. [9] further differentiates the market participant into a friendly participant (complementary to other participants), a hostile participant (competing against other participants), a single-buyer participant (buy from multi-sellers), or a single-seller participant (sell to multi-buyers). [3] classified e-marketplaces into three categories: the e-broker (cybermediary) model (e.g. amazon.co.jp), the manufacturer model (e.g. Toshiba), and the auction model (e.g. yahoo.co.jp). [4] also looked into the success factors of an e-marketplace as strategic factors, technical factors, and functional factors. Strategies include first-to-market, brand establishment, customer focus, targeted marketing, outsourcing, and development of a customer or user community. Technical issues encompass quality-of-service items such as response time, throughput, and reliability. Functional factors include facilitation of product customization, support for negotiation, and access to a similar interest user community.

Getting right back to basics, e-commerce is another channel to market or sell to customers and consumers. Websites and emails are the two main e-commerce applications that are used together to promote and advance the selling process to closure. Grasping the knowledge and know-how of applying these powerful tools will help SMEs benefit from e-commerce, and at the same time can avoid the dark side of digitalized era.

There are several ways that websites can be used as a new sales channel for a business. They are website sales models, sales support websites, e-catalogue and e-marketplace. Website sales model is the part played by a website in the sales process, which depends on the product and service offering, and its value. Many ingenious ways have been developed by businesses to create unique offerings from a website. Nissen.co.jp is one of these sites.

Sales support web sites are developed with the purpose of providing an on-line profile of the business, its product and service offerings. These sites are valuable marketing communication channels, which assist prospects and

customers in researching and evaluating competitive offerings. A typical example of this kind of website is [www.kakaku.co.jp](http://www.kakaku.co.jp). The objectives of these web sites are, to motivate the prospect to contact the business, by either completing an on-line enquiry form, sending an email, or making a telephone call; maintain and develop customer loyalty by presenting new offerings; and increase awareness of the business and provide an easily accessible corporate information resource for prospects, customers, journalists, and shareholders.

The most common approach to selling on-line is to use an e-catalogue, which replicates the main features of the familiar paper catalogue. Offerings are grouped and categorized, with a powerful on-line web site searching facility to assist the visitor to quickly find what they need. Photographs and offering descriptions, with multiple layers of detail available through links to other web pages, are orchestrated to help the visitor quickly make an evaluation and a decision to purchase. An example of this type includes [www.amazon.co.jp](http://www.amazon.co.jp). Many of the traditional skills of successful retail can and should be mapped to web site.

Other popular ways of buying and selling on-line are e-marketplaces, which bring buyers and sellers together with various rules of engagement. Auction websites, exchanges, sales training websites are typical examples of such e-marketplaces.

Auction websites enable personal traders and businesses of all sizes, to negotiate prices for purchasing and/or selling direct materials, capital, or services. An example of this website is Yahoo! Japan Auctions that is considered as the most profitable internet business in Japan today.

Exchanges offer a similar matching of buyers to sellers, except, usually, the price is predefined by at least one of the parties. Price-line has successfully applied this concept for consumers who want to buy airline tickets, hotels rooms, and car hire. Here, the consumer enters the price they want to pay and other parameters, such as dates, etc., to define their requirements, and if a match is found, the purchase is immediately made, as credit card details are taken upfront. [www.castour.co.jp](http://www.castour.co.jp) is a typical example.

Sales training web sites can be used to inform sales teams and staffs in remote offices of new procedures, campaigns, products, services, and corporate changes. Information can be updated immediately and accessed globally by all employees at convenient times.

Beside website, another powerful application - emails can be used for generating traffics to websites and supporting the sales process. Firstly, newsletters, special offers and insider information can be sent out cheaply by email to customers and prospects, to maintain awareness or to promote a specific line. The content of each email can be personalized for each individual, using business database records to increase relevancy and produce a higher click-through rate to the web site. Secondly, periodic emails can also be sent out to remind customers of an order action that they need to make, such as renewing a subscription, making a check-up, or even considering what

to buy for a partner's birthday next week, with discounts offered for customer loyalty. Besides, product, literature, plans, reports, proofs, quotations, and orders can all be sent as email attachments, to speed up the sales process. In addition, retailers, suppliers, and sales teams can email feedback on new marketing promotions, techniques, or point-of-sales methods, so that appropriate changes can be made to maximize the effectiveness of a campaign.

Enterprises may change their business model into one of above mentioned models of e-commerce distribution channels, based on the following four factors: (1) characteristics of the firm; (2) competitiveness and management strategies of the firm; (3) influences of internal or external parties on the adoption decision process; and (4) characteristics of new model adopted. For SMEs, the adoption of e-commerce model may depend on the fifth one, considered as the most important factor, the innovative attitude and knowledge about IT of the CEO.

### **3. General Status of SMEs in Japan**

As is the case with other countries in the globe, SMEs had played an increasing role in development of Japanese modern economy. SMEs, which are defined in Japan as having less than 300 employees or invested capital of less than 100 million yen for the most cases, account for over 99% of all the companies in Japan and employ 77% of the nation's labor force.

Besides, Japanese SMEs are well-known for their creativity as having come up with many of the ingenious innovations around us. Toothpaste, vacuum packed boil-in-the-pouch food, the vending machine, the bread-making machine, capsule hotels, karaoke, and so forth are typical innovations that proved the plentiful creativeness of SMEs in Japan. With these major participations, SMEs are in the high consideration in every aspect of economic studies including e-commerce as a new motivation raising new economy.

With the implicit potential of creativity and support of the government, Japanese SMEs may be more encouraged to adopt e-commerce than SMEs in other advanced technology countries. However, one of the initiative factors that impulse SMEs into engaging e-commerce is the way to reach customers' needs and wants, and serve them in high level of satisfaction. This factor is not familiar with SMEs, especially in new digitalized economy. Next parts will discover the distinctive characteristics of Japanese distribution systems in order to clarify the way that SMEs use to adopt e-commerce in Japan. At the same time, the paper also answers the question of "are they successful in this new type of retailing channel or not?"

### **4. Characteristics of Japanese Distribution Channel**

Japan is a highly attractive market. However, its multi-layered distribution system is quite complex and costly. That results in a supply chain in which most products change hands at least two or three times before

reaching the retail outlet, consumer prices rise up and productivity of retail sector is quite low. One of the reasons of this complicated distribution system in Japan stems from Large-Scale Retail Stores Act. The Act imposes social/environmental criteria to limit the entry of large-scale retailers. The Act bears most directly on the density of retail stores in Japan. It is the initiative reason why Japan has far fewer department stores and general merchandise super stores per person than the US, when at the same time it has much more other retailing stores per person. The Large Scale Retail Store Law was the latest in a succession of Japanese laws over the last sixty-five years that imposed bureaucratic obstacles to the establishment of large stores. The Large-Scale Retail Stores Act, whereas lowering the efficiency of department stores, general retail stores, specialty shopping centers and other large-scale stores, and then the efficiency of Japanese whole retailing sector, plays an important role to the thriving of SMEs.

Another potential explanation could be made by the so-called "keiretsu" as one of the most distinguished characteristics of Japanese distribution system. There are two distinctive types of industrial organization seem to have evolved in the world economy. The major difference between them lies in whether the manufacturer or retailer has the upper hand in the distribution channel and bears the major risk.

#### **4.1 Retailer-Controlled Channels**

This first type of distribution channel is very popular in the United States and European countries. The retailer determines the specification of the products they wish to sell, and purchase them from the lowest bidder among the manufacturers. The retailers also determine the various after-sale services that accompany their products.

However, the retailer cannot directly control the quality of products they purchases. Without any control, quality will eventually deteriorate and this will hurt retailers. In order to check for quality, the retailers must institute costly inspection mechanisms. They may also be able to persuade their suppliers to invest in expensive machines, which produce more reliable products, by incurring part of the investment cost. Such addition expenses incurred so as to maintain quality are not present in the case of vertical integration.

In this mode of distribution, the major risks are born by the retailers. Well-diversified large retail companies, often equipped with better standings in financial markets than most manufacturers, are capable of absorbing the risk of occasional over- or under- production. It is this capacity to absorb risk that allows the retailers to buy their supplies at lower prices than otherwise, since they implicitly provides insurance for the manufacturers.

#### **4.2 Manufacturer-Controlled Channels**

The second type is the distribution channel in which the manufacturer has the upper hand over the retailer. Japan represents for this type of distribution channel with the well-known "keiretsu". Keiretsu refers to a uniquely

Japanese form of corporate organization. A keiretsu is a grouping or family of affiliated companies that form a tight-knit alliance to work toward each other's mutual success. The keiretsu system is also based on an intimate partnership between government and businesses. It can best be understood as the intricate web of relationships that links banks, manufacturers, suppliers, and distributors with the Japanese government.

Keiretsu operate globally and are integrated both vertically and horizontally. They are organized around their own trading companies and banks. Each major keiretsu is capable of controlling nearly every step of the supply chain ranging over a variety of industrial, resource and service sectors. Horizontal keiretsu have been headed by major Japanese banks and include the "Big Five" - Mitsui Sumitomo, Tokyo Mitsubishi, Fuyo, Sanwa, and Dai-ichi Kangyo Bank Groups. Vertical keiretsu are industrial groups connecting manufacturers and part suppliers or manufacturers, wholesalers and retailers. These vertical keiretsu include car and electronics producers (Toyota, Nissan, Honda, Matsushita, Hitachi, Toshiba, Sony) and their "captive" subcontractors. Distribution keiretsu, a subgroup of vertical keiretsu, control much of Japanese retailing, determining what products will appear in stores and showrooms and at what price.

While some think keiretsu are a threat to trade, others see them as a model for change. Features common to most keiretsu include "main bank", stable shareholding, and seconded directors. Some keiretsu concepts, such as "general trading company", have no American parallels. The keiretsu system is one of the profound differences between Japanese and US business structures.

In reality, of course, both types of industrial organizations coexist in the same economy. Changes in product standardization and reliability may instead cause the distribution sector to alternate between the two models.

In Japan, such complicated distribution system has great impacts on e-commerce adopting process, especially for case of SMEs. Whereas benefit that keiretsu bring to SMEs such as overcoming the difficulties of capital shortages, protecting domestic manufacturers against foreign competitors, and easing customer relationship management (CRM), its affect on e-commerce engaging process is not so clear. Maybe it becomes a tough barrier that prevents SMEs from engaging e-commerce. Maybe it will strengthen advantages of enterprises including SMEs in the new competitive environment. The following part will answer this debate by drawing the real status of SMEs e-commerce distribution channel in Japan with its

distinctive characteristics.

## 5. e-Commerce as a Competitive Distribution Channel for Japanese SMEs

E-commerce has been appearing in Japanese market for not so long time (since 1995, lag behind US for 5 years), but is showing a great potential prospect. This type of retail will see an up-front increase in the whole market including books, music, computers and auxiliaries, car, apparel, housing service, tourism, and so on. In spite of the slight increasing in sales volume, Japan's e-commerce showed an unbelievably increasing in term of growth rate (B2C increased by 80% and business-to-business (B2B) increased by 34% in comparison with previous year and e-commerce in general increased three times as the number of 1999), which led Japan to the region's e-commerce leader (see Table 1 below).

By the way, the characteristics of Japanese e-commerce is that the major companies who enter e-commerce market are mostly huge or big companies which have large capital and enormous potential human resources to be mobilized for both delivery and information technology. There may thus be a particularly strong rationale for governments to address the problems that impede SMEs from adopting and using electronic commerce. And this is also the reason why the adoption and use of e-commerce raise special issues for SMEs.

In Japan, due to the rapid development of technology advance, the diffusion of information and communication technology (ICT), and the custom of buying via telephone or TV, there exists a high motivation enforcing a great number of SMEs to use internet. However, because of their small size, SMEs have less scope to manage the fixed costs and benefits of investing in new technologies. SMEs are also less able to defend themselves against security and liability problems. On the other hand, the adoption of e-commerce prevails in areas such as access to new markets and gathering and diffusing information on an international scale. While almost Japanese SMEs (79.1%) adopt internet and they well know that having a web presence improves business activities, therefore, the majority still uses it only for basic functions such as advertising, exchanging operational data with suppliers, rather than engaging on the practical e-commerce, especially B2C. Among the companies engaging in e-commerce, 77.06% deal with other companies (B2B) and only 38.13% have a contact with final consumers (B2C) as shown in Figure 1. Therefore, it is said that today Japanese SMEs are in the first stage of e-commerce.

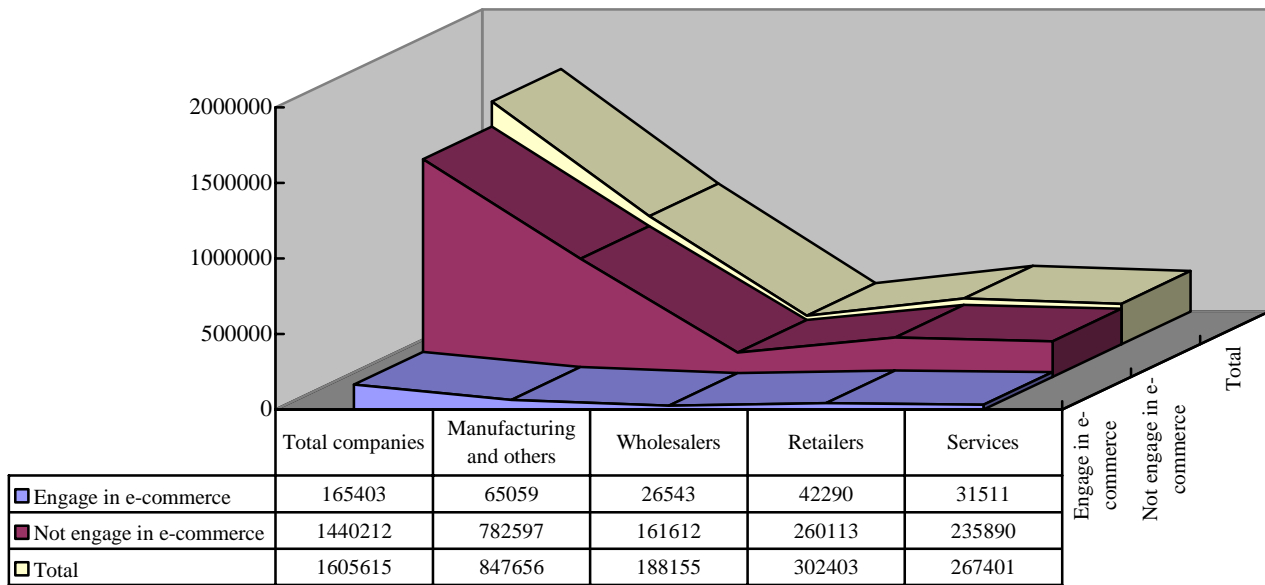
**Table 1**  
**e-commerce market situation in Japan**

Descriptions	1998	1999	2000	2001	2002
Sales*	8,684	12,656	22,424	35,511	48,992
Growth rate (times)**	1	1.46	2.58	4.08	5.64

Sources: Economics and Statistics Administration, *E-commerce 2001 highlights*

\* billion of US\$

\*\* as comparison with sale of 1998



**Figure 1**  
**e-commerce status of SMEs in Japan**  
 (Source: *Census of Commerce*, 2001)

Unlike small firms in the US, which tend to operate independently, Japanese small firms engage in critical business alliances. There are four different types of business alliances in Japan: (1) the keiretsu, a network of large and small companies; (2) sanchi, a cluster of small firms in a related field of business; (3) kyodokumiai, cooperatives of small businesses; and (4) shita-uke, a subcontracting arrangement where many small firms rely on one large company. The purpose of these alliances is to provide support and mutual gain for all involved, and laws are written in their favor. For instance, the cooperatives are exempted from anti-trust legislation and a network of legal and financial assistance supports members (see [2]).

In the subcontracting system, the main fields of outsourcing by large companies include IT; equipment, management and security; general affairs; logistics; receptionist and secretarial services; manufacturing; education of employees; design and product planning; and research and marketing.

To adopt e-commerce as a new high-tech marketplace these business alliances still facilitate SMEs to acquire various knowledge of new technologies and unexperienced business activities. Many kinds of local e-commerce business communities, such as procurement, mall, brokerage and agent type communities have been supported by the government and other organizations. Policies targeting SMEs in Japan have reduced the gap between SMEs and large enterprises by providing immediate support for the self-help efforts.

A mall type e-commerce business community such as Rakuten, which is called a cyber mall, is considered as a typical B2C in Japanese SMEs. The cyber mall is a representation of a marketplace, a department store, or the like on the internet. Visiting virtual mall, consumers can enjoy online shopping, choosing what they want in

webpages with little time. Presenting as a collection of shops, a virtual mall has various advantages including low development costs, ability of grasping customers from both domestic and foreign countries, and being more interesting than conventional market. At the same time, however, it will become increasingly difficult for consumers to find the products and services they want in giant mall. As a result, a system will be necessary to help them find the items that meet their specific needs. For SMEs who are in lack of capital and qualified human resources, e-business communities become a good choice that bring various expected benefits.

It is obviously that although the potential of e-commerce is quite persuasive, however, number of companies, especially SMEs, which have engaged in e-marketplaces, is rather limited in Japan. Lack of access to bank loans and venture capital, shortage of skilled workers, and low level of business and technology skills are cited as reasons for the difficulties in adopting e-commerce of SMEs. Among the reasons, the most rise-up issue is the trustworthiness of on-line activities. On-line transactions and exchange relationships through internet are not only characterized by uncertainty, but also by anonymity, lack of explicit control, and potential opportunism, which makes reduction in risk and promotion of trust crucial elements of e-commerce, particularly for B2C. On-line transactions often do not involve simultaneous exchange of goods and money. Spatial and temporal separation between exchange partners is common. Consumers are required to disclose sensitive personal information (such as credit card number), although on-line vendors are often located far from consumers, even in different countries and show only a limited history of prior on-line transactions on their websites. Those factors affect opportunities and barriers to

enter into e-commerce and prevent SMEs from developing e-commerce as a strategic distribution channel.

Another difficulty that Japanese SMEs usually face is a financial issue. Today, the trend that SMEs can join and introduce themselves or even sell their products or services in a share website becomes popular in Japan. The famous website of such marketplace where SMEs can exchange their information are kakaku.com, rakuten.com, and so forth. However, for small Japan-based merchants hoping to enter into the e-commerce marketplace, the options are limited, expensive, and generally unprofitable. In the US, small merchants can open an online store for as little as \$25 monthly. In Japan, the cost skyrockets to around \$500 monthly at popular shopping malls like Rakuten, and then goes up to an extremely high level (\$50,000 or more yearly) to run a customized storefront. To make matters worse, small Japanese merchants typically operate on bare-bone margins. This makes them instantly gobbled up by website development or hosting fees and the large amount of per-transaction commissions Japanese e-commerce providers and credit card companies charge.

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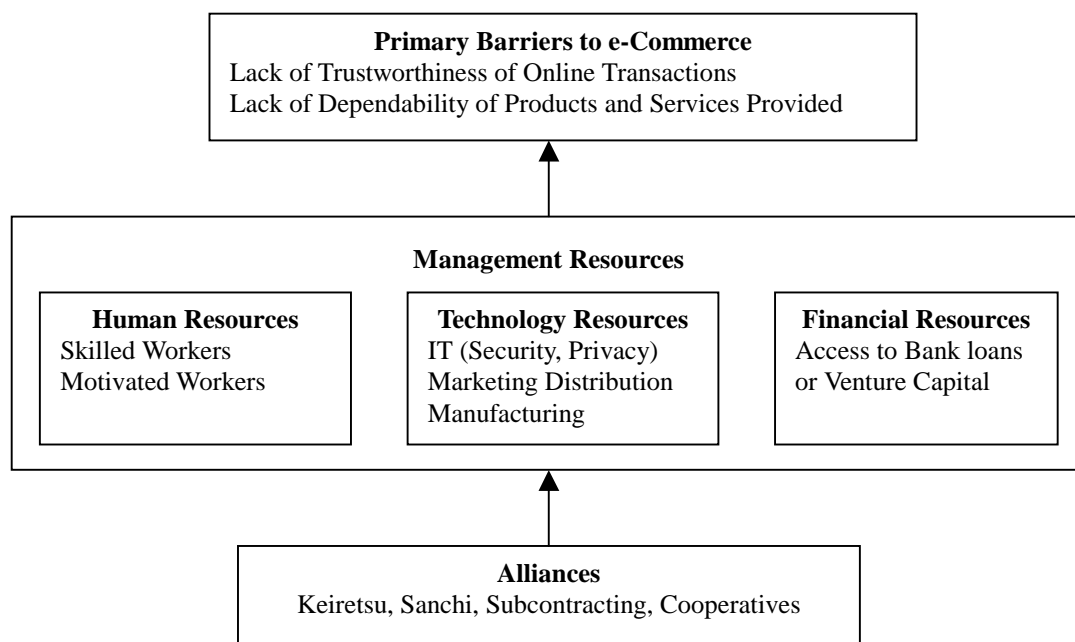
## 6. Conclusion

As a new distribution channel with a great number of prospects, e-commerce may represent a considerable share of total economic activity and improve the quality of distribution system in Japan in the near future. SMEs now cannot further ignore the potential prospects that

e-commerce may bring anymore. However, engaging e-commerce is not an easy work, especially for SMEs, because of the existing of numerous barriers. Considering carefully determinants of its strategic use such as communication requirements, intensity of competition, support and incentives may help SMEs select the right business model to perform.

As mentioned above, e-commerce in Japan now is just in the first stage for every type of enterprises, including SMEs. Although almost SMEs are using internet, and Japanese government attaches importance to upgrading ICT infrastructure as well as facilitating payment systems, just a few small enterprises do have experiences with e-commerce. They also do not gain much benefit from e-commerce at the same time. However, whereas other distribution channels face with the stagnant demand, e-commerce is still being one of the most effective distribution channels of Japanese enterprises these days with the highest growth rate.

To intensify effectiveness of e-marketplace for SMEs, this paper suggests integration of some possible e-commerce models that use website and email as practical e-commerce tools in tandem with finding experiences of Japanese SMEs. By engaging in business alliances, Japanese SMEs find a novel way that facilitates e-business. Well-established traditional alliances help SMEs overcome a number of barriers such as lack of investment capital and qualified human resources, their lower known reputation, and/or lack of well-known brands, as well as help SMEs set up effective customer relationships even while they do not learn well about purchasing behavior of the new type of customers.



**Figure 2**  
**Analytical framework for e-commerce penetration into SMEs**

As we know, new start-ups in electronic retailing that are disadvantaged by their lack of an established reputation can reduce consumers' perceived risk of purchase by carrying only well known brands. Consumers derive utility from the shopping experience and are more likely to shop on-line for products/services that are low in purchase risks. They are also more likely to shop on-line for products with well-known brands than lesser-known ones. However, they are less likely to shop on-line from lesser-known retailers who carry well-known brands, than from reputable retailers, even if the latter carry lesser-known brands. Thus, forming new business alliances will take positive effect for SMEs. Selling via a well-known website may help SMEs increase their sale and profit. These considerations lead to a research framework for analyzing e-commerce business models by SMEs, as shown in Figure 2.

In this paper we could not look into the effectiveness of business alliances to e-commerce, but are bounded in pointing out a new model of e-business that may be an effective way to accelerate SMEs performance. From this knowledge of e-marketplace and the practical performance within Japanese SMEs, the further research may explore potential productivity of e-commerce, and then design an effective e-commerce model for SMEs that is now taking notice of SMEs themselves and government of every country.

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