

# Strategic Application of E-Commerce for Customer Satisfaction: A Study with Small Businesses in Korea

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**Abstract:** Recent development of information technology has brought dramatic increase of strategic use of information system in businesses all over the world. This paper will examine e-business application for customer satisfaction especially in Korean small and medium businesses to illustrate the major impact of information technology on small and medium sized firms in Korea, find out the roles of e-commerce within their supply chain systems in those small and medium-sized enterprises, and then, identify major barriers that prevent Korean small businesses from entering into e-commerce. Finally, this paper will propose an analytical framework for e-commerce penetration into small firms as a guideline of future applications in similar cases.

## I. Introduction

There are few articles published on the applicability of e-business and its practices in small and medium-sized businesses. Most of research studies focus on the U.S. or Japanese businesses, with little thought being given to their applicability to small businesses in other less developed countries, such as Korea.

Small businesses are very different from large ones in many areas, such as management style, production processes, available capital, purchasing practices, inventory systems, and negotiating power. However, the nature of E-business suggests that application of e-business to small businesses may work well as it does for large ones. Some of the e-business elements and programs appear to be more compatible with small businesses. Some benefits from e-business may be relatively more significant to small firms. In addition, most small firms may be suitable for applying e-business because of its basic features.

E-business elements can be classified into two groups: (1) those that are independent of the size of firm, and (2) those that relate to the size of firm and may be more difficult for small businesses to employ. Actually, many small firms all over the world have already implemented lots of e-business elements in their daily operations of business.

Most of earlier researches focused mainly on the potential of e-commerce and its general impact on business activities, but few studied effective models of e-commerce for companies different in size, nature, country specific location, and other characteristics. This study, in order to construct a reasonable business model of e-commerce for small and medium sized companies, will focus on clarify the

characteristics of small and medium sized firms in a dynamic economy of Korea.

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 small businesses. Because small businesses face much more obstacles than large companies do, the model that is fit and effective for small businesses may quite different from ones for large enterprises. This study, in order to construct a reasonable business model of e-commerce for small businesses, will focus on clarify the characteristics of small businesses in new digitalized economy, referring to some cases in Korea.

## II. Existing e-Commerce Distribution Channel Models

Literature review shows that there are a number of categories of e-marketplace. It refers to the firm that operates an e-marketplace as the "intermediary", which may be a market participant, an independent third party of a multiform consortium. It further differentiates the market participant into a friendly participant, a hostile participant, a single-buyer participant, or a single-seller participant. It also classifies e-marketplaces into three categories: the e-broker model, the manufacturer model, and the auction model. It also looks 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.

E-commerce is now 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 small businesses benefit from e-commerce.

There are several ways that websites can be used as a new sales channel for a business. They are websites sales models, sales support websites, e-catalogue and e-marketplace. Beside website, another powerful application – emails can be used for generating traffics to websites and supporting the sales process such as using periodic email, mailing list, mail attachment, and so on.

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; (4) characteristics of new model adopted. For small businesses, 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.

### III. Korean Small Businesses and their Distribution Systems

Small businesses have contributed significantly to the economic growth in many countries all over the world. They have accounted for a large share of total employment in those countries. However, in Korea the success of large corporations, so called "Chaebols" or conglomerates, has been well acknowledged. During the last three decades Korea achieved prominence in every industry, especially in manufacturing, based mainly on large corporations. They played a vital role in promoting rapid growth during Korea's economic transition. However, since the financial crisis in Asia in 1997, Korean large corporations have been blamed as a major source of the economic crisis in Korea. The national strategy of economic development based on large corporations had seemed to be successful until just before the crisis, but actually created lots of social and economic problems behind the success stories.

The new economic environment after the economic crisis in Korea makes it increasingly difficult for Korea to continue economic development based on large corporations. With a high unemployment rate due to the recent economic crisis, small businesses have received more attention than ever in Korea to provide steady economic growth with employment opportunity as the Korean government adopts strong policies and programs for the promotion and development of small businesses. Fortunately, Korea now understands that small businesses can exert a strong influence on its economy, particularly in the fast-changing and increasingly competitive global markets. Korea believes that small businesses can be a major engine of economic growth and technological progress in the future. Small businesses are often more fertile than larger firms in terms of innovation. The features of small businesses, such as flexibility, innovativeness, and problem-solving action orientation, are now being considered as vital for success in the Korean economy.

With the new government policy for promoting and supporting small businesses' application of information technology in their operations of daily businesses in Korea, Korean small businesses may be more encouraged to adopt e-commerce than small businesses in other advanced technology countries. However, one of the initiative factors that impulse small businesses into engaging e-commerce is the way to reach customers' needs and wants, and serve them in high level of satisfaction. This factor is now familiar with small businesses, especially in such a competitive market. Next parts will discover the distinctive characteristics of Korean distribution systems in order to clarify the

way that small businesses use to adopt e-commerce in Korea.

Like in Japan, most Korean businesses have multi-layered distribution systems which are quite complex and costly. It 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 the productivity of retail sector is quite low. Korea has far fewer department stores and general merchandise super stores per capita than most of developed countries. Actually, it has much more other retailing stores per capita.

'Chaebol' refers to a unique form of Korean conglomerate. A chaebol is a grouping or family of affiliated companies that form a tight-knit alliance to work toward each other's mutual success. This 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 Korean government. Korean Chaebols operate globally and are integrated both vertically and horizontally.

### IV. E-Commerce as a Competitive Tool for Korean Small Businesses

Even though the history of e-commerce in Korea is not long, more Korean businesses have tried e-commerce in their operations recently. The characteristics of Korean 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 small businesses from adopting and using electronic commerce. And this is also the reason why the adoption and use of e-commerce raise special issues for small businesses.

Unlike small firms in the US, which tend to operate independently, Korean small firms usually work for large corporations or engage in special relationships with Chaebols, such as subcontracting. To adopt e-commerce as a new high-tech marketplace these business alliances still facilitate small businesses to acquire various knowledge of new technologies.

It is obvious that although the potential of e-commerce is quite persuasive, however, number of companies, especially small businesses, which have engaged in e-marketplaces, is rather limited in Korea. 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 small businesses. Reasons are including the trustworthiness of on-line activities, lack of financial resource, and so on.

The emergence of intermediaries has contributed to the fast development of the B2B e-marketplaces in Korea. An intermediary usually is a company that provides the technical expertise to develop and/or set up a multi-buyer, multi-seller electronic market. An intermediary can also be a firm, which shares its TPN with other companies, and

thereby facilitates and controls a B2B solution. Kannan, Chang, and Whinston (2000) describe five ways that an intermediary can add value to the market: (1) researching buyer information needs, (2) acquiring relevant information about products from suppliers, (3) managing intellectual properties and copyright, (4) authenticating information suppliers, and (5) complementing, processing, and adding value to information products. They indicate that electronic communities are increasingly called upon to play the role of intermediaries. These e-communities consist of a critical mass of members whose needs are mainly commercial and who use the communities mainly for networking and building business relationships.

#### **IV. 1 Buyer-Driven Catalog and Bidding Solutions**

Buyer-driven solutions are systems that manage procurement by posting Request for Quotes (RFQ) and inviting bidding, or by allowing access to approved suppliers' products and services on the buyer's internal computer networks. Requisitioners of the buying company can make purchases from preferred suppliers on their company intranet, within limits of automatically enforced buying rules set by purchasing management.

Besides the generic benefits of e-procurement that were discussed in the Introduction, automated order-entry eliminates errors and accelerates the approval process. The buyer-driven system also supports an on-line catalog that limits the range of suppliers in order to avoid "maverick purchases," the purchase of items that are not from authorized suppliers or items that are not offered at the negotiated price. The solutions also help capture purchasing data within the buying company for further analysis and review. For the vendor or intermediary who provides the B2B solutions, it is important to serve as a consultant to help the buying client develop RFQs, qualify suppliers, or set up and manage bidding events.

#### **IV. 2 Third-Party Catalog and Trading Exchange Solutions**

A third-party B2B solution can include a collection of electronic catalogs of multiple suppliers that can be accessed and searched through one site (portal) by multiple buyers. It can also host auctions and bid-quote exchanges. Third-party sites are also called electronic market places, vertical portals, and electronic commerce hubs. Most of these third-party solutions focus on industry-specific vertical markets. These solutions offer a variety of applications for negotiation, bidding, payment, and display. Selected sellers and buyers can also form private networks based upon membership with a third-party solution.

To a buyer, third-party solutions offer an economical way of accessing the most up-to-date catalogs while reducing web-site hopping search of suppliers. They are especially popular for commodity products and fragmented markets with well-defined buyers and sellers such as steel, chemical, plastic resins, and plastic and paper packaging products. To the sellers, third party solutions create market

liquidity with a critical mass of buyers.

#### **IV. 3 Seller-Driven Portals or Extranets**

A seller-driven solution is a sellers' web site or extranet that provides electronic catalogs and allows on-line ordering. It is another type of the multi-lateral IOIS, a Broadcast Sales System developed by a seller. The benefits are quite general, such as the ability to check order status, confirm pricing, confirm payment or delivery, access technical support, register for seminars, and so on. These benefits can also be found in the buyer-driven and third-party solutions. In this type of system the seller has the highest control over product offering information and the trading process. This type of solution can often be developed more easily and quickly than the first two types of solutions because it can build upon pre-existing trading relationships. Though many larger supplier companies are developing their own seller-driven solutions, small businesses can use purchased solutions to bypass complex and expensive EDI requirements to level the playing field.

#### **IV. 4 Value Chain Management Solutions**

The above three types of B2B solutions are primarily designed for making the trade happen, that is, matching the buyer(s) with the sellers(s). Some degree of "integration" is possible between the IT systems of the trading partners, and they vary across the three types of solutions. However, value chain management (VCM) solutions focus on the integration of business processes between trading partners after the purchase contract is signed. These business processes tend to involve the exchange of more frequent information over the life of the contract. They usually include order processing, manufacturing planning and scheduling, and logistical planning.

Some VCM solutions specialize in enhancing customer relationship management. These solutions integrate the sales, marketing, and service functions of the seller firm to unify their transactions to support a customer order. Such capabilities improve both customer satisfaction and efficiency and control for the supplier/seller. On the other hand, other VCM solutions strive to integrate a manufacturing (a "buyer") firm with its suppliers. These kind of solutions serve as decision support systems to help the manufacturing company optimize its production and logistics network configuration and synchronize day-to-day interactions with its suppliers.

### **V. Conclusion**

E-commerce may represent a considerable share of economic activity and improve the quality of distribution system in Korea in the near future. Small businesses now cannot further ignore the potential prospects that e-commerce is not an easy work, especially for small businesses, 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 small businesses select the right business model to perform.

To intensify effectiveness of e-marketplace for small businesses, 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 Korean small businesses. Forming new business alliances will take positive effect for small businesses. These considerations lead to a research framework for analyzing e-commerce business models by small businesses.

In this paper, however, we are bounded in pointing out a new model of e-business that may be an effective way to accelerate small businesses performance. From this knowledge of e-marketplace and the practical performance within Korean small businesses, the further research may explore potential productivity of e-commerce, and then design an effective e-commerce model for small businesses.

(Due to space limitations references will be available upon request.)