

New Product Concept Generation: The Case of B2B E-marketplace in Developing and Developed Markets

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ABSTRACT

By the means of a case study of the predominant B2B e-marketplace in China, Alibaba.com, this study aims to provide an analysis of the development of new product concept in the world's largest developing market. Specifically, it examines how Alibaba.com developed a product concept that matched the unique Chinese business environment and the needs of its core customers, whereas similar product concepts have not proved feasible in developed markets. Comparisons are made about the differences in new product concept generation between developed and developing markets.

Keywords: New Product Concept, B2B E-marketplace, Developing and Developed Markets

INTRODUCTION

The most important step in new product development (NPD) process is probably opportunity recognition and the generation of new product ideas, commonly referred to as new product concepts. Crawford and Di Benedetto (2008) conclude that there are three components in a new product concept: the product form, the technology involved, and the customer benefit. The product form is the physical thing created, or in the case of a service, the process of serving the customer. The technology is the source by which the form is attained. The customer benefit could be understood as the customer need that the product satisfies.

All products started out as some product concepts. To be able to reach the final stage of commercialization, the new product concept has to go through several other stages, including screening, business analysis, product development, product and market testing (Crawford and Di Benedetto, 2008). Since the other stages follow the generation of new product concept, an inappropriate product concept would lead to a final new product that is unlikely to succeed on the market. Surprisingly, little research in the NPD literature has been conducted on new product concept generation, and the extant research in the NPD area has not paid enough attention to this stage. Even less is known about this important NPD stage in developing countries. Because major developing countries such as China have taken up a substantial share of the world's economy, and are developing new products everyday for international markets, an interesting issue, then, is: what are the main differences in new product concept generation between developed and developing countries?

Adopting a case study approach and using B2B e-marketplace as the backdrop, this paper highlights the roles played by economic development level, the availability of skilled labor force, firms' technological sophistication, financial resources, and past business practice in new product concept generation. The benefit of focusing on the same industry is that the major differences or similarities in new product concept generation could be highlighted without the considerations of cross-industry differences. In this case, what we observed is that the same product category (e-marketplace) was created in both developed and developing markets based on the same underlying technological innovation (the Internet) to provide services to customers in the B2B sector. But how should e-marketplaces position themselves in the two types of markets---developing and developed? Should they provide equally innovative services in both? Are there differences in the services of the e-marketplaces between these two types of markets? If there are, what are they?

MARKET ENVIRONMENT AND NEW PRODUCT CONCEPT

In this section, we discuss the pertinent market environment factors that affect the generation of new product concept in the B2B market. We then examine how these factors could lead to different new product concepts in developed and developing markets, respectively. The factors to be examined and their relationships with the three components of new product concept are summarized in Table 1.

Table 1: Market Environment Factors and New Product Concept in Developed/Developing Countries

FACTORS	NEW PRODUCT CONCEPT GENERATION IN DEVELOPED COUNTRIES			NEW PRODUCT CONCEPT GENERATION IN DEVELOPING COUNTRIES			Reasons for differences
	Benefits	Technology	Form	Benefits	Technology	Form	
Economy	Advanced customer needs benefits	Sophisticated technology	Complex form	Basic customer needs bene fits	Less sophisticated technology	Simple form	Different levels of economic development creates disparities in customer needs, which determines the benefits derived from and the technology applied in the new product and its form
Skilled labor force	Advanced customer needs benefits	Sophisticated technology	Complex form	Basic customer needs bene fits	Less sophisticated technology	Simple form	Large supply of skilled workers in developed countries and small supply of such workers in developing countries lead to different benefits sought by customers in the two markets and associated technology applied in the new product and its form
Technology	Advanced customer needs benefits	Sophisticated technology	Complex form	Basic customer needs bene fits	Less sophisticated technology	Simple form	More technological sophistication in developed markets makes firms adopt more technologically advanced products more easily, but not so in developing markets
Financial resources	Advanced customer needs benefits	Sophisticated technology	Complex form	Basic customer needs bene fits	Less sophisticated technology	Simple form	More financial resources in developed markets enable firms in developed markets to afford more advanced products, but not so in developing markets
Past business experience	Advanced customer needs benefits	Sophisticated technology	Complex form	Basic customer needs bene fits	Less sophisticated technology	Simple form	Better ICT-based business practices in developed markets requires improvements in efficiency, whereas conventional means of business communication in developing markets lead to more basic needs

Market Environment

Crawford and Di Benedetto (2008) suggest that customer benefit is the most critical component in a new product concept, and it is generally better to first consider customer benefit when generating a new product concept. Therefore, it seems appropriate to first examine the market environment factors that directly influence customer needs because the benefit provided by the new product has to satisfy such needs. A customer has a need for something because it is perceived to be able to bring some value to him. The works of Tornatzky and Fleischer (1990) and Rogers (2003) both discuss the effect of environment on organizations' value assessment. Tornatzky and Fleischer explain three aspects of a firm's context that affect a firm's intention to adopt new products: technological context, organizational context, and environmental context. Technological context describes both the external technologies available and internal technologies (existing technologies inside the firm). Organizational context is defined by several characteristics of the organization: firm size and scope, the complexity of its management structure, the quality of its human resources, and the amount of slack resources available. Environmental context is the arena in which the firm conducts its business---its industry, competitors, and access to resources.

Rogers (2003) studies social and economic systems and their influence on what individuals and organizations desire. In particular, he describes the roles played by social structure and system norms, among others. Social structure is the patterned arrangement of units in a system. Norms are the established behavior patterns for the members of a social system. Although this categorization of the factors affecting customers' value assessment is different from that of Tornatzky and Fleischer (1990), we can still reach the conclusion that both include some macro-level factors and some micro-level ones. The macro-level factors encompass all the characteristics of an organization's external environment (e.g., the economic system and the technological environment). The micro factors include those internal to the firm (e.g., internal technologies, financial resources, and established behavioral patterns).

Following this line of logic, we highlight several main factors in the B2B market environment that are relevant to the analysis of B2B e-marketplaces. The macro factors are the levels of economic development and the supply of human resources in the technology sector. The micro factors include the level of technological sophistication of the organization, its financial resources, and its past business practice.

First, B2B marketing is greatly affected by the development of the economic system in which firms operate. A higher level of economic development generally is an indicator that firms are operating in a more efficient system (Bromley, 1989). Accordingly, there may be differences in the needs of organizations in developed and developing economies, as well as in the processes through which such needs are satisfied (Sharma and Gupta, 2009). In a more efficient market system, organizations could be more demanding in what they require from e-service firms such as e-marketplaces. It is not enough that service providers just hand in a piece of market data because basic market data are more widely available in these markets than in developing markets. They would have to offer competitive problem-solution packages (Day et al., 2003). On the other hand, in less developed economic systems, there are few adequate channels for information flow, and firms are yearning for even basic market information. Suppliers may need to get to know more buyers, and vice versa (Alpar, 2010). Thus, firms in

developing markets have more basic information needs for finding business opportunities.

Second, whether there is a sufficient supply of skilled labor force has a direct impact on organizations' needs. Educational systems in less developed countries may not be able to produce enough well-trained technology workers for e-businesses (Haley, 2002). The lack of competent technology personnel limits the extent to which firms can utilize the advanced information communication technologies (ICT) in business operations (Mehrotra, 2010). The ICT services they require do not have to be highly advanced because they lack knowledgeable employees to participate in the process. More basic market intelligence would often be what they can handle. Companies in developed countries, with their more advanced educational system and policies for attracting skilled immigrants, may not face as serious a problem, and therefore could more easily adopt advanced ICT systems.

Third, the level of technological sophistication in organizations has a strong impact on the needs of businesses. There is generally an underdeveloped telecommunications infrastructure in less developed countries. Firms in these countries utilize more backward means of communication than their counterparts in developed countries, and the automation of information flow between supply chain members by utilizing the most advanced ICTs is not feasible (Mehrotra, 2010). In other words, "e-readiness" is an important factor affecting e-commerce adoption (Zhai, 2010). On the other hand, in developed countries, many firms already enjoy widely available computerized communication and data management systems in their everyday operations. E-marketplaces could provide advanced business solution services so that organizations could improve their operation efficiency. Again, this results in the different levels of customer needs in the two markets---basic information needs in developing markets and advanced business solutions in developed markets.

Fourth, organizations' financial resources are also closely related to their needs in the B2B market. Firms in developed economies obviously have more resources than those in less developed ones. They may afford to obtain state-of-the-art equipments and hire competent technology workers, but these may be too expensive for those in developing countries (Sharma and Gupta, 2009). Organizations in developing countries have to settle for less advanced information technologies and therefore have more basic needs regarding B2B marketing services, whereas firms in developed markets could afford the more expensive, advanced information services.

Last but not least, firms' past business practices also have a direct impact on their needs. Mustonen-Ollila and Lyytinen (2003) find that past technological experience of an organization is one of the strongest factors affecting its inclination to obtain new technologies. Therefore, there is a path-dependency in the formulation of organizations' needs. In developed markets, past business operations based on sophisticated tools and communication channels may enable firms to assimilate with relative ease the more advanced information systems that B2B e-marketplaces could offer. In developing markets, B2B marketing activities are based more on traditional human interactions because the use of advanced ICTs is limited (Haley, 2002). Hence, firms in developed markets require advanced services because they have already been able to use the better-developed ICTs, whereas those in developing markets would hope to find more opportunities not provided by the conventional means of doing business.

Customer Needs in Developed and Developing Markets

The previous discussion shows that there are two broad types of customer needs in the B2B market: basic market information, mainly in developing markets, and advanced business solutions focusing on business efficiency improvement, mainly in developed markets. For the purpose of this study, basic market information refers to the knowledge that is necessary for one to establish a business transaction with some other party. Examples include: information on the existence of a potential business partner, the location of potential business partners, the reputation of these potential partners, the type of the products they sell, the quality of these products, the prices of the products, delivery methods, how satisfied their existing partners are with their services, etc. Information on all of these is helpful to someone who is trying to find the right business partner for a certain transaction need.

Business efficiency improvement is about increasing the speed, quality, cost-effectiveness, and other aspects of business transactions. Examples include: conducting faster business transactions, building long-term trustworthy relationships with major business partners, quick feedback to partners about product quality and service, lowering the cost of communicating with partners, establishing emergency mechanism jointly with partners, creating reliable communication channel among various internal business units and between these internal units and outside partners, automation of procurement process, etc.

New Product Concepts of B2B E-marketplaces

As discussed by Crawford and Di Benedetto (2008), new product concept generation should generally start with customer benefit, and then move on to the considerations about product form and technology. Therefore, the decisions about the product form and what technologies to apply in the new product have to be guided by the very reason why in the first place the product concept is contemplated---to satisfy certain customer need. Because of the different needs of the organizations in developing and developed markets, the product concepts of e-marketplaces in the two types of market could also develop different focuses regarding the core customer benefit. Accordingly, the product form and technology components of the e-marketplace concepts in developed and developing countries will also show some differences.

According to Verhoest and Hawkins (2000), there are two components of commercial trading that are common to all business transactions: transaction preparation and transaction completion. Transaction preparation involves marketing and advertising, and encompasses all the information exchanges associated with the transaction. Transaction completion refers to ordering, billing, payment, and transfer of merchandise from the sellers to the buyers, and then to the end users in the supply chain. Pera (2003) adopts this framework in the context of B2B e-hubs. In his analysis, services provided by e-hubs fall into two categories: transaction preparation includes information on content (products and related information) and ordering (quality assurance mechanisms); transaction completion is provided by logistics and settlement services e-hubs offer to participants.

It seems clear that because of the different market needs in developing and developed countries, their e-marketplaces could focus on different types of customer

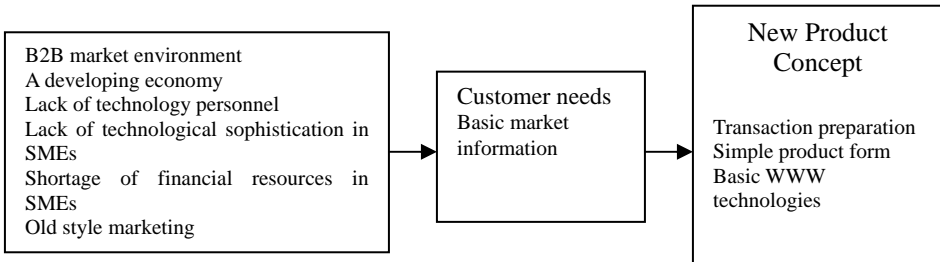
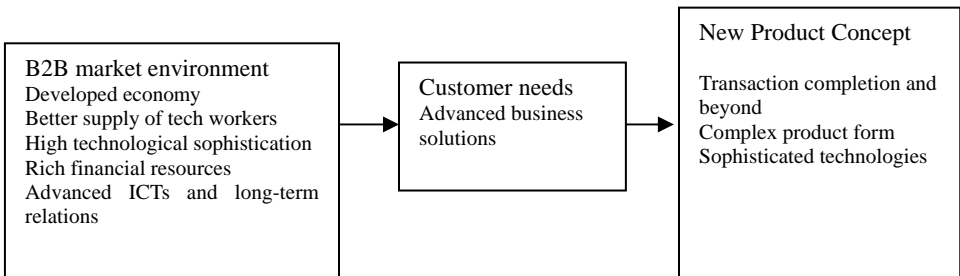
benefit---transaction preparation and transaction completion, respectively. In developing countries, e-marketplaces may need to adopt a focus on transaction preparation because this would satisfy customers' need for basic market information on new business opportunities. This benefit will make it easier for buyers to find the right supplier through whom to acquire the most appropriate products. In the meantime, transaction preparation services will allow the supplier to locate the buyer that is willing to pay the appropriate price for his product (Bloch and Catfolis, 2001).

In developed markets, the focus of e-marketplaces should be on transaction completion as this will help customers improve business efficiency and integrate supply chain management. For the supplier, the improvement in the logistical processes can be the prime advantage of using an e-marketplace. For the buyer, the automation of business dealings with suppliers could lead to substantial cost reductions and smooth overall operations of the business (Bloch and Catfolis, 2001).

Having discussed the first component of the new product concept for e-marketplaces---the customer benefit, we are in the position to explore the other two components---the product form and the technologies applied. In developing markets, the appropriate product form likely is a simple website that builds a community of buyers and sellers that post information on products for sale and requirements for products needed. In other words, the e-marketplace functions as a basic information exchange platform for participants. Since providing the basic business information is the core customer benefit, there is little need for the e-marketplace to get involved in the business transaction between buyers and sellers once they locate each other on the website. Overall speaking, this e-marketplace could be regarded as having a simple product form. Accordingly, relatively basic Internet or World Wide Web (WWW) technologies could be adopted. Essential technologies are the same as those adopted by websites that aim to build an online community. The website could also incorporate certain search engine technology to enable participants to find one another more easily. As discussed previously, the market environmental factors make it unlikely for customers to handle advanced ICTs, and sophisticated technologies aimed at automating their supply chain management are not feasible.

In contrast, in developed markets, to provide customers with the benefit of transaction completion, more complicated product form and sophisticated technologies may be required. A simple website that focuses on helping buyers and sellers locate each other would not be enough. The product form has to incorporate specialized services to help the whole process of procurement, billing, confirmation, feedback, and other aspects of communication. This process should be automated with little human intervention from the e-marketplace (Zhao, Zhao, and Hou, 2010). Accordingly, the technologies essential to supply chain integration are required. These technologies have to allow the automation of business transactions between suppliers, the e-marketplace, and sellers (Zhao, Zhao, and Hou, 2010), and thus are much more sophisticated than those required for building a simple website for a community of buyers and sellers.

The product concepts of e-marketplaces for the two markets and their relations with the five environmental factors are shown in Figures 1 and 2.

Figure 1: Product Concept of B2B E-marketplaces in Developing Markets**Figure 2: Product Concept of B2B E-marketplaces in Developed Markets**

Evidences from Developed Markets

Both recent developments and academic research regarding B2B e-marketplaces in developed countries have already proven the pattern described in Figure 2. A number of studies examined e-marketplaces in developed markets. This stream of research has invariably discussed the major aspects of the framework proposed in this paper, namely, market environment, customer needs, as well as the corresponding product form and technologies applied. We summarize several facts established by these studies:

- (1) Many suppliers have already established close relationships with their customers. One of the major objectives of using the Internet technology is to improve the efficiency and lower the cost of doing business (Zhao, Zhao, and Hou, 2010).
- (2) Procurement is critical in business operations and its costs are high in many industries. Online systems that could reduce these costs have great promise (Zhao, Zhao, and Hou, 2010).
- (3) Many businesses have invested in their current information systems (such as EDI), and they are reluctant to disrupt systems that work, even if these systems are partially uneconomic or somewhat inefficient (Ulfelder, 2004; Day et al., 2003). Customers want the best available bundle of information and services in a form compatible with the systems that they currently employ (Wang et al., 2008). Furthermore, because many companies have already invested in sophisticated information technology tools, it is often

emphasized that e-exchanges should also aim to automate business transactions (Kaplan & Sawhney, 2000).

- (4) Developed countries enjoy the best education systems that produce needed technology workers and also are able to attract highly-educated immigrants from developing countries, and this helps firms maintain more sophisticated ICTs (Castles and Lucas, 2010).
- (5) McIvor & Humphreys (2004) conclude that electronic intermediaries cannot generate business opportunities only. They have to take on some of the roles traditionally undertaken by the purchasing function in the customer organization. Some e-marketplaces have tried to become supply chain business-outsourcing companies, and success has to come from integrating customer operations to allow them to improve their supply chains and even jointly work on product designs (Rossignoli et al., 2009).

It can be seen that, because developed markets, compared with developing markets, represent better developed market systems, relatively good supply of skilled workers, more financial resources that enable firms to adopt more advanced ICTs that are relatively widely utilized, and the past business practices in using these ICTs, the B2B e-marketplace model of simply providing transaction preparation does not seem to be desirable for firms in these markets. B2B e-marketplaces can differentiate themselves more effectively by providing valuable knowledge and expertise to customers based on their industry structure, providing a data-collaboration platform, and fostering a higher level of inter-organizational integration (Chang, Easley, & Shaw, 2009).

Therefore, the reality has shown that the appropriate product concept for e-marketplaces for developed markets seems to need to focus on transaction completion as the core customer benefit. The other two components of new product concept--- the product form and the technologies applied---have to be determined with this core benefit in mind. Because the services provided to customers are beyond basic business information, the product form is also relatively complex. In developed markets, an e-marketplace is a many-to-many, web-based trading and collaboration solution that enables companies to buy, sell, and collaborate on a global scale. The primary services are to help clients streamline complex business processes and gain efficiencies (Eng, 2004). Therefore, the basic product form could be understood as an Internet-enabled mechanism that delivers full supply chain management (Rossiglioni et al., 2009).

Such e-marketplaces obviously require sophisticated technologies to be established and maintained. For example, many e-marketplaces are based on the Ariba software that addresses comprehensive business issues. Ariba's commerce technology brings key elements such as advanced sourcing, dynamic negotiation and commerce services to the platform. E-marketplaces often implement the so-called Straight Through Processing (STP) systems. In this system, the entire process, from production to quality control to shipment and delivery, can be tracked online.

In summary, the shakeout in the past several years in the B2B e-marketplace sector in the U.S. and Europe have proven that independent B2B e-marketplaces have to aim at providing high-quality transaction completion services to clients, creating relatively complex product forms to be able to provide the services demanded by customers, and adopting sophisticated information and communication technologies to reach this goal. The consequences of not assessing the market need correctly have become clear in the past few years. Most independent e-marketplaces in developed economies initially focused on attracting buyers with a transaction preparation concept. Because many

failed to generate enough business and grow revenue, 80 percent of these e-marketplaces inevitably failed in a fast shakeout, and many of the survivors are still struggling. The survivors more or less have repositioned themselves as providers of service bundles that help customers solve their problems (Day et al., 2003).

RESEARCH APPROACH

It is clear that B2B e-marketplaces focusing on transaction preparation do not seem to be a successful concept in developed markets. But is such a model really suitable for developing markets? For the purpose of this research, the case study approach is adopted because the aim is to provide an initial understanding of the development of the new product concept by examining the business environment and customer needs in the B2B e-marketplace sector. Because such an understanding requires a comprehensive picture of the events and their background, a historical approach applied to a representative case would provide the best approach. This approach enables the researcher to become deeply knowledgeable about the firm's activities, thus allowing new insights to emerge. Yin (2008) defines the case method as an empirical inquiry that "investigates a contemporary phenomenon within its real-life context".

China's Alibaba.com provides a good representative case for this study in a developing market setting. Unlike many of its counterparts in developed countries that either failed or could not even break even in their early stages, Alibaba quickly became profitable in 2002. A report indicates that most of the small and medium-size enterprises (SMEs) in China that have access to the Internet choose to work with Alibaba (Davis, 2008). With 56 million users, Alibaba has become the predominant B2B e-marketplace in China and a study about it would produce insights into successful new product concepts for e-marketplaces in developing markets.

Following Yin (2008), we performed data triangulation by utilizing data from multiple sources. First, desk research on secondary information about the five environmental factors and Alibaba itself was conducted. Relevant facts and data are gathered. The findings of the research on the secondary data were rich enough to provide a relatively clear picture about the market environment and Alibaba's background and business operations. To complement the findings of the secondary data research, data are also collected with interviews with two company executives at a length of one hour each. The interviews were semi-structured in that they allow the interviewees to openly discuss what they understood about the background and the business of the company and in the meantime allowed the required data to be collected. Questions focused on the market environment, the major technologies adopted, and the services (product form) provided to customers. Jack Ma, the founder of Alibaba, was not available but his numerous recorded discussions and talks about his company were deemed sufficient for the purpose of this study. The author collected, studied and analyzed all the data but a professional translator helped translate the recorded texts into English. The major findings were examined across all available data sources and no conflicts found.

FINDINGS AND DISCUSSIONS

B2B Market Environment in China

Since the late 1970s, China has implemented reform policies that especially encourage the development of non-state owned enterprises, which are overwhelmingly SMEs. Currently, 99 percent of all Chinese firms are SMEs. The overall trend is that these small firms are increasingly making a large contribution to the national economy at a time of the relative decline in the contribution of larger firms. Corresponding to the rise in their contribution in the national economy, small firms are increasingly playing an important role in China's export (Yu and Bell, 2007).

However, because China is still a developing economy, the cross-border trade is a highly fragmented and inefficient market. Before Alibaba, importers and exporters relied on catalogs, directories, trade shows and contacts to find each other. They then went through lengthy background checks and negotiations to iron out the details of each trade (Doebele, 2000). Although some Chinese SMEs had made tremendous progress in learning the markets outside China or even established business ties with those markets, many more had not had any opportunity to find business overseas. Therefore, the relatively underdeveloped economic system in which the Chinese SMEs operate inhibits market opportunities for these firms, which are eager to open up business opportunities in international markets.

Regarding the technology workforce, China's universities churn out thousands of graduates versed in modern technologies. But there is still a big gap in the demand and supply of tech workers. To make the matter worse, many well-educated tech workers are employed by large, state-owned firms. Several factors have led to this. China's college graduate placement approach, which was designed under the centrally planned system, largely overlooks the non-state-owned SMEs, at least until recently. The graduates themselves are also reluctant to take a position with such firms as they are less prestigious. On the demand side, many small firms cannot afford to hire these workers, who generally demand a higher salary (Li, 2005). This situation leads to the fact that many SMEs do not have the necessary human resources to build sophisticated information systems that could take advantage of advanced services that could have been offered by e-marketplaces (Haley, 2002).

The adoption of advanced ICTs by Chinese SMEs faces several major barriers, including the lack of skilled workforce and the inability of SMEs to pay high salaries to attract skilled workers (Skoko et al, 2008). Without the sophisticated ICTs used more widely by firms in developed countries, Chinese SMEs currently do not have a strong desire to build sophisticated information systems connected with e-marketplaces but only hope to satisfy their more basic needs for information on business opportunities.

Like human resources, financial resources also are concentrated in large firms in China, and many SMEs do not have the financial resources to acquire new technologies (Skoko et al, 2008). Since the acquisition and maintenance of advanced ICT systems require a relatively high level of investment, SMEs cannot afford full-blown supply-chain information systems. Instead, they could only afford the less costly basic information services such as identification of business opportunities.

Finally, many Chinese SMEs rely on personal networks or traditional means for marketing purposes (Siu, 2001). The main drawback of this practice is that it limits the

scope of the market that these firms can target. To find more overseas business partners, many SMEs pay about 30,000 yuan to participate, for two weeks, in the China Export Commodities Fair, held each year in Guangzhou. If there is an alternative through which the firms could showcase their products to a much wider audience over a much longer period of time, companies would naturally be eager to take part (Zhang, 2004). Therefore, past marketing practices are not sufficient for the growth of SMEs, especially as the competition in the domestic market becomes more intense for SMEs. They have a strong desire to look for growth in the global market, and information services helping with this type of opportunities would be helpful.

Alibaba's New Product Concept

Customer benefits

Several points emerge from the above discussions about the market environment in China. First, an underdeveloped economy results in a highly fragmented and inefficient market system where finding business partners, especially the overseas ones, extremely difficult for the large number of SMEs that were formed in the past two decades. This situation leads to the particular need of these SMEs---better ways of finding business opportunities. Finding business partners, obtaining information on their requirements for products, and making pricing and delivery terms known to potential partners are in domain of transaction preparation, which would be the main benefit that SMEs seek from service providers. Second, the past business practices relying on personal networks for marketing purposes, in the face of intensified competition, also help create the need for finding basic information on market opportunity. Transaction completion services that e-marketplaces could provide would allow SMEs to go far beyond the limits of personal networks and obtain much needed knowledge about potential business partners they have not known to have existed.

Third, limited supply of skilled tech workers makes it unlikely for Chinese SMEs to have the human resources needed to participate in advanced ICT systems that e-marketplaces could have helped automate as the e-marketplaces do in developed markets. This also implies that the core benefit that these SMEs seek from e-marketplaces cannot be transaction completion, because it requires the customer to have skilled technology workers that are knowledgeable about the sophisticated ICT systems. Again, this leads to transaction preparation as the only core benefit that e-marketplaces could offer to most Chinese SMEs.

Fourth, the lack of sophisticated ICTs in Chinese SMEs means that these firms have neither the equipment nor the experiences with advanced information systems. Transaction completion services require both for the customer to be able to effectively participate in the systems of supply chain integration, as is the case in developed markets. At this point, Chinese SMEs are not yet ready for such services. However, transaction preparation services that e-marketplaces could provide do not require these companies to own advanced technologies and equipments. All they need to have is the basic Internet access to post messages about buying or selling opportunities. Therefore, it is much more realistic for e-marketplaces to engage the SME customers in transaction preparation services.

Fifth, limited financial resources lead to the fact that Chinese SMEs are not yet ready to afford the advanced business solutions provided by sophisticated ICTs that are more widely used by western firms. The costs associated with hiring skilled workers

and buying sophisticated equipments required for full supply chain automation systems or full transaction completions services are prohibitively expensive for these firms. However, since the transaction preparation services that e-marketplaces could provide do not require those investments, they are much more affordable and acceptable to them.

In short, although these SMEs represent a large market, Internet-enabled supply chain integration focusing on transaction completion is not the benefit that they seek from e-marketplaces. The appropriate core benefit that e-marketplaces should provide is transaction preparation, not transaction completion. E-commerce, even in the most basic form of using the Internet to obtain market information, can “drastically reduce the costs of making the existence and location of potential buyers and sellers known to each other” (Milgrom & Roberts, 1992). Jack Ma realized this early:

There are at least one million businesses in China wanting to sell things abroad. But most of them are SMEs that usually have no sales channels outside of their home country. The only thing they could do before is traveling around the world to open exhibitions or join trade fairs. That's too expensive for SMEs. For them, the Web is the best way to sell.

Based on this understanding of the need of Chinese SMEs, the customer benefit provided by Alibaba could be concisely described as “using the Internet to help small and medium-sized producer firms grow their business by finding new business opportunities, especially in overseas markets.” This benefit is strictly in the domain of transaction preparation, and it does not aim for transaction completion at all. The latter, as we have already seen, is the focus of the B2B e-marketplaces in mature markets. What Alibaba does for its customers is the new business opportunities with which they will make money rather than improvements in the efficiency of the transaction process for saving money. Ma explained that, given the business environment of the Chinese SMEs, they do not need Alibaba to help them engage in adopting advanced information technologies to connect with supply chain partners.

Alibaba's product form

Following Crawford & Di Benedetto (2008), the other two components of the new product concept --- technology and product form should be guided by the customer benefits identified. The product form is the means through which a new product satisfies customer need. Alibaba's product form consists its website and the services provided through this website, and they have to serve to deliver the core customer benefit---transaction preparation---to its customers. The Alibaba.com website clearly suggests a focus on transaction preparation. Following Pera (2003), there are two types of website features for the purpose of transaction preparation---content and ordering. The features in the content category are associated with searching for products, service, sellers, and buyers. The elements in the ordering category, on the other hand, are about the assurance that firms need to have about the products (i.e., the specifications) they purchase or the other party they deal with.

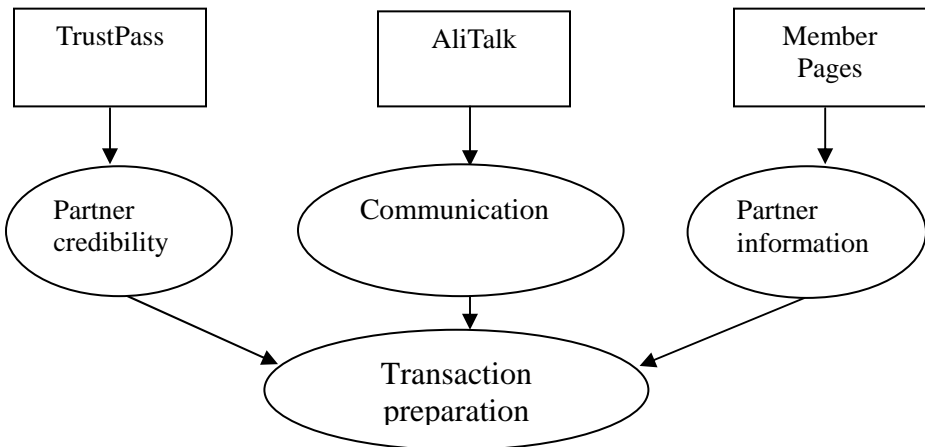
We first examine the content information. Alibaba built a web page for each firm under its industry category. Therefore, each participant shares the same front door that leads to their own home page (still in the Alibaba.com domain), and the front door is just the main Alibaba.com website. This may not be a revolutionary progress for most of the companies in developed countries, but it is for many Chinese SMEs. Because of the large number of participants, every member now has a better chance of being discovered

by potential business partners. Each firm’s page includes an introduction including major products, the ownership, the location, the number of employees, the year of establishment, annual revenue, and the contact information. In terms of ordering information, there are descriptions of the products and even pictures of the products. Furthermore, the web page states whether the firm has been verified by government agencies, past awards and certifications, links to comments by the firm’s business partners, the contacts for further references, and its TrustPass score (discussed below).

To see how the product form designed by Alibaba helps deliver the core customer benefit, we now briefly discuss two more elements of this product form that are directly related to its customers--- Chinese Supplier membership and TrustPass (Figure 3). Under different product categories, members of the Chinese Supplier service could post information on their firm, their products, and their requirements for overseas business partners. They have access to information on more than 9 millions buyers. TrustPass is an interactive trust profile that allows businesspeople to build a “credit history” online. The member’s TrustPass profile contains third party reference information from his customers, other TrustPass members and accreditation agencies, as well as certificates and awards. The average business volume of TrustPass members is 22 times that of free members.

As the Alibaba website and the services it provides suggest, the Alibaba product form is very simple because the core benefit it delivers to the customers is only basic market information (transaction preparation). It does not require the participant to have sophisticated skills or expertise to participate. As has been discussed, the market environment factors do not allow most SMEs to be able to engage in advanced ICT systems.

Figure 3: Main Elements in Alibaba.com’s Product Form



Technologies adopted by Alibaba

The lower level of economic development in China has dictated that customers have more basic needs--- in this case, basic market information or business opportunity. Also, as discussed before, short supply of skilled workers, especially ICT workers, limited financial resources, and a lack of technological sophistication make it less likely for

Chinese SMEs to utilize the most advanced ICTs used in developed countries. Correspondingly, technologies sufficient for delivering transaction preparation are adopted.

The fundamental technologies are not different from any website that operates by building its membership. The basic Internet technology is used to set up a website as the information platform for buyers and suppliers who may post supply and demand information. Beyond this, other technologies adopted include a search engine, and an instant messenger system.

Alibaba's search engine is essentially a recommendation system complementing TrustPass. Not only does it produce fast and accurate results for the information one tries to search for, it also lists the companies found through the search according to their TrustPass scores. The higher the score a firm has, the higher up its place in the search results. Alitalk is an instant messaging system specifically designed for businesspeople, allowing them to search for potential business partners that have logged in and communicate and negotiate with them immediately. New announcements that fit a member's background are instantly available to him if he has logged on. Alitalk members can search for other members based on industry, products, location, etc., and invite them to discuss business proposals in real time.

It is easily seen that, because of the constraints imposed by the environmental factors and more basic customer needs identified, Alibaba adopted and successfully implemented relatively simple technologies in its product concept. Chinese SMEs, not having sophisticated ICTs, skilled tech workers, and rich financial resources, can easily benefit from the information services provided by Alibaba and find business opportunities not available before. In contrast, it has been observed that e-marketplaces in developed markets have developed advanced information systems for their customers.

CONCLUSION AND IMPLICATIONS

Through a case study of the top e-marketplace in China---Alibaba.com, this research examined the effects of several macro and micro environmental factors on the new product concept generation in the B2B e-marketplace context. We illustrated that, as a developing economy, China's market conditions lead to Alibaba's new product concept that focuses on helping customers find business partners and market opportunities (transaction preparation) as the core customer benefit. Accordingly, Alibaba built a relatively simple product form. This product form was based on basic WWW technologies for establishing a website-based buyer and seller community. In contrast, e-marketplaces in developed markets focus on advanced business solutions or improvement in business efficiency (transaction completion) as the core customer benefit, and product form is complex and the technologies incorporated are much more sophisticated.

Implications for Academic Research

The roles played by the environmental factors in the process of new product concept generation should be further explored and delineated in future research. For example, which factors contribute most to new product concept generation? How do they interact to affect customer needs? Do they affect the three components of the new product

concept equally? As this is a qualitative study, the answers to these questions cannot be easily obtained. It is clear from our discussion that the effect of the environmental factors on the technology and product form components of the new product concept, at least in the Alibaba case, are partially derived from their effects on the benefit component. However, is this also true in other cases? There are probably cases where one or more of the factors could contribute most to the new product concept. An example might be new products developed based on radically new technologies. In such cases, a radically new technology is first invented and then the appropriate customer benefit and product form are explored. It is worthwhile to study how the environmental factors discussed in this paper would influence the new product concept generation in such cases. The comparisons in this area between developed and developing countries would also yield substantial insights.

Research could also look at other environmental factors that are relevant to new product concept generation, both at the macro level and the micro level. For example, at the macro level, the political/legal environment calls for consideration in certain contexts (such as the pharmaceutical industry). At the micro level, the status of the firm in the industry---whether it is one of the leading firms or one of the many little players---may also influence the way the company views the environmental factors and consequently how it understands the three components of the new product concept. Cross-country comparisons can also examine how culture plays a role here.

An important topic that requires attention is the process of generating new product concept. Little research has been devoted to the mechanism of new product concept generation. What process or organization structure should firms adopt to ascertain the pertinent environmental factors and incorporate such findings into new product concept generation? Should a team that is composed of both technology people and marketing experts be involved in the whole process of generating new product concepts, from environment scanning to the determination of customer benefit, product form, and technologies to be applied, or only marketing people initially? What are the contingency factors? Again, cross-country comparisons, especially between developed and developing markets, can also be explored to examine these questions. It is reasonable to assume that the environmental factors discussed in this paper also play a role in the role in comparing the process or mechanism of new product concept generation between these two types of market.

Implications for Practitioners

Creating new products by continuous innovation has been widely advocated as a competition weapon. Managers have been admonished that they should create the most innovative products to be competitive (e.g. Byrne, 2005). However, even when advanced product concept for a new product category is available, a not-so-advanced product concept could be more viable if it meets the market needs in developing countries. As Alibaba's case shows, companies intending to develop new products for developing markets need to examine the environmental factors, including the market system in which client firms operate, the financial, technological, and human resources of the clients, the past practices of the client firms, and other relevant factors.

These will provide insights into the real needs of the customers and lead to an appropriate customer benefit in the new product concept. Then the product form can be

explored and technologies sufficient for creating this product form determined. A severe mistake would be made if one believes that product concepts proven to be useful in developed markets would work equally well in developing markets. In the Alibaba case, a more basic customer benefit is provided for the China market, and relatively simple product form and unsophisticated technologies applied to create this product form. A product concept providing advanced customer benefit with complex product form and sophisticated technologies would not likely have succeeded in China. The key is to assess the market environment and customer needs carefully.

An important benefit of doing so in a timely fashion (before competitors gain a stronghold) is that there are often more opportunities to create a potentially winning product concept easily and fast for developing markets, where there are conceivably more unmet basic needs compared with developed markets. In the case of Alibaba, with the insights into the market environment and the needs of local SMEs, Alibaba quickly established its dominance with a technological innovation (the Internet) that was easily utilized. Multinationals, with their technological prowess, could take advantage of the potentially many unmet market needs in developing markets to expand globally. Amazon.com, for example, has adopted this strategy by acquiring a major Chinese online bookseller and adapted Amazon's many proven technologies to develop a new online store for the Chinese market. With its numerous resources, Amazon.com is expected to become an immediate major player in China, where there are only several comparatively weak competitors. Therefore, multinationals should consider offering products that satisfy more basic needs in developing countries as a major strategy.

New product concepts should be created when there are new conditions in the market environment. Emerging markets in Asia such as China and India are all seeing dramatic progress in economic development. It is imperative that companies closely monitor the changes in business environment and the associated customer needs to create new product concepts that evolve as the market environment changes (Cloete & Doens, 2008). A stage-based NPD model should be considered for these markets, even for products that are not based on rapidly changing technologies. A new product concept could only be viable in its own stage, which is determined by the market environment. When the environment changes, so do customer needs and the associated product concept with its three components. A new stage then calls for a new product concept to be generated.

A related issue, of course, is how to ascertain the relevant elements in the business environment, and, in turn, the customer needs. The case study shows that it is important to have someone who has a deep understanding of developing markets when generating new product concepts. This is especially important for multinationals with limited knowledge about these markets. In the case of Alibaba, the technology (the Internet) itself cannot guarantee success because it is available to every potential competitor. But only Ma and his colleagues had the insights into the particular needs of Chinese SMEs and they never doubted that they were revolutionizing the way SMEs do business. Since concept generation is the first important step in the NPD process and it affects the eventual success of the new product, managers in charge of NPD for developing markets should get the people with the special knowledge of the local market involved from the very start. No participation of such people, or participation only at the execution stage of NPD, should be avoided. Only with an insightful understanding about the market environment can a successful new product concept be generated.

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